ORDER NO. VRD8910M162

Service Manual

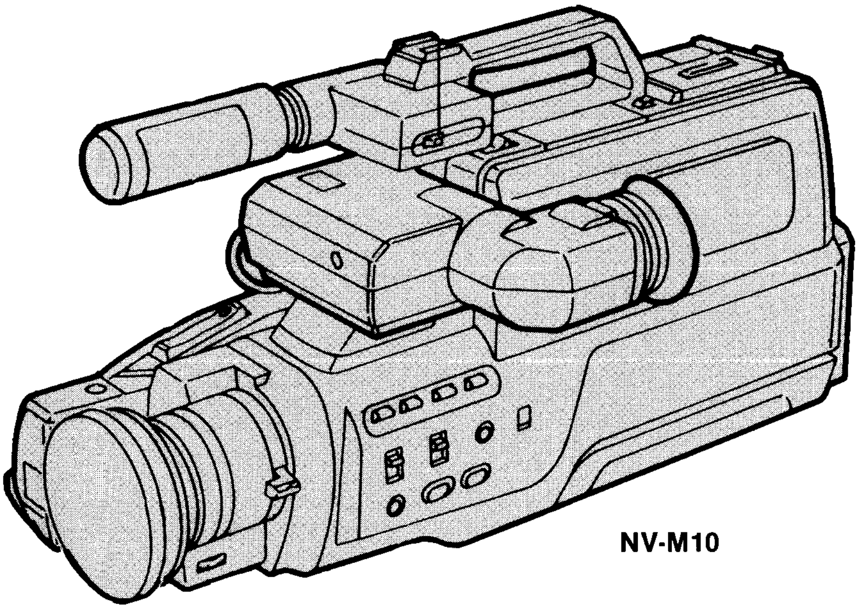
General Description
Adjustment Procedures
Block / Schematic Diagrams
Exploded Views / Parts List

Panasonic VHS
PAL
Hi-Fi HQ

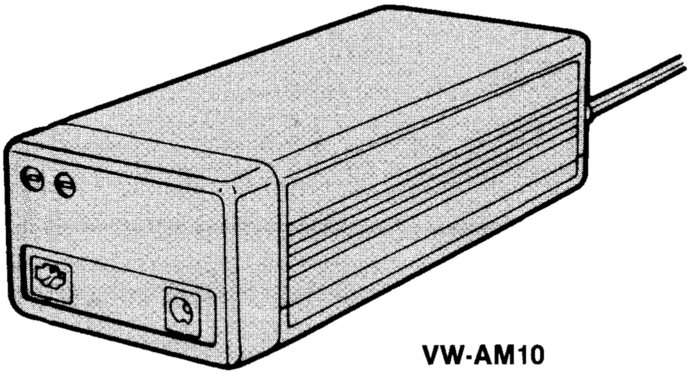
VHS Movie
NV-M10 E/EW B/EA EG/A EO

AC Adaptor
VW-AM10 E B A EA

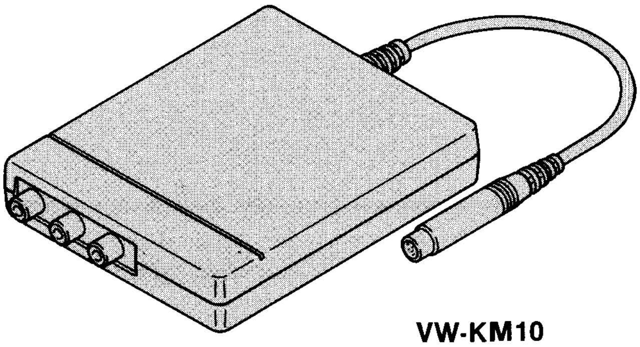
Line Adaptor
VW-KM10E



NV-M10



VW-AM10



VW-KM10

Panasonic

Matsushita Electric Industrial Co., Ltd.
Central P.O. Box 288, Osaka 530-91, Japan

INTRODUCTION

This service manual contains technical information which will allow service personnels to understand and service this model.
Section 1 presents you with some general information of features and controls, enabling you to become familiar with each function.
Section 2 contributes to your mechanical and electrical adjustment as well disassembly and replacement procedures.
In the case of very common information relating to other models like mechanical adjustments, please refer to each service manual.
Section 3 contains block diagrams which offers you information for checking and understanding each circuit. Schematic diagrams which give you detailed information such as waveforms, voltage data, function e.t.c...
Section 4 contains exploded views and parts list.
Please place orders using the parts list and not the drawing reference numbers.
If the circuit is changed or modified, this information will be followed by supplementary service manual to be filed with original service manual.

Technical Information

SERVICE CAUTION

1. PREPARATION FOR CAMERA ADJUSTMENT

Remove cabinet parts and remove camera section from VTR refering disassembly section and place them as shown in Fig. T1.

Connection of Extension Cable (A) (VFK0430) and Camera Holder (refer to next item) are necessary for servicing.

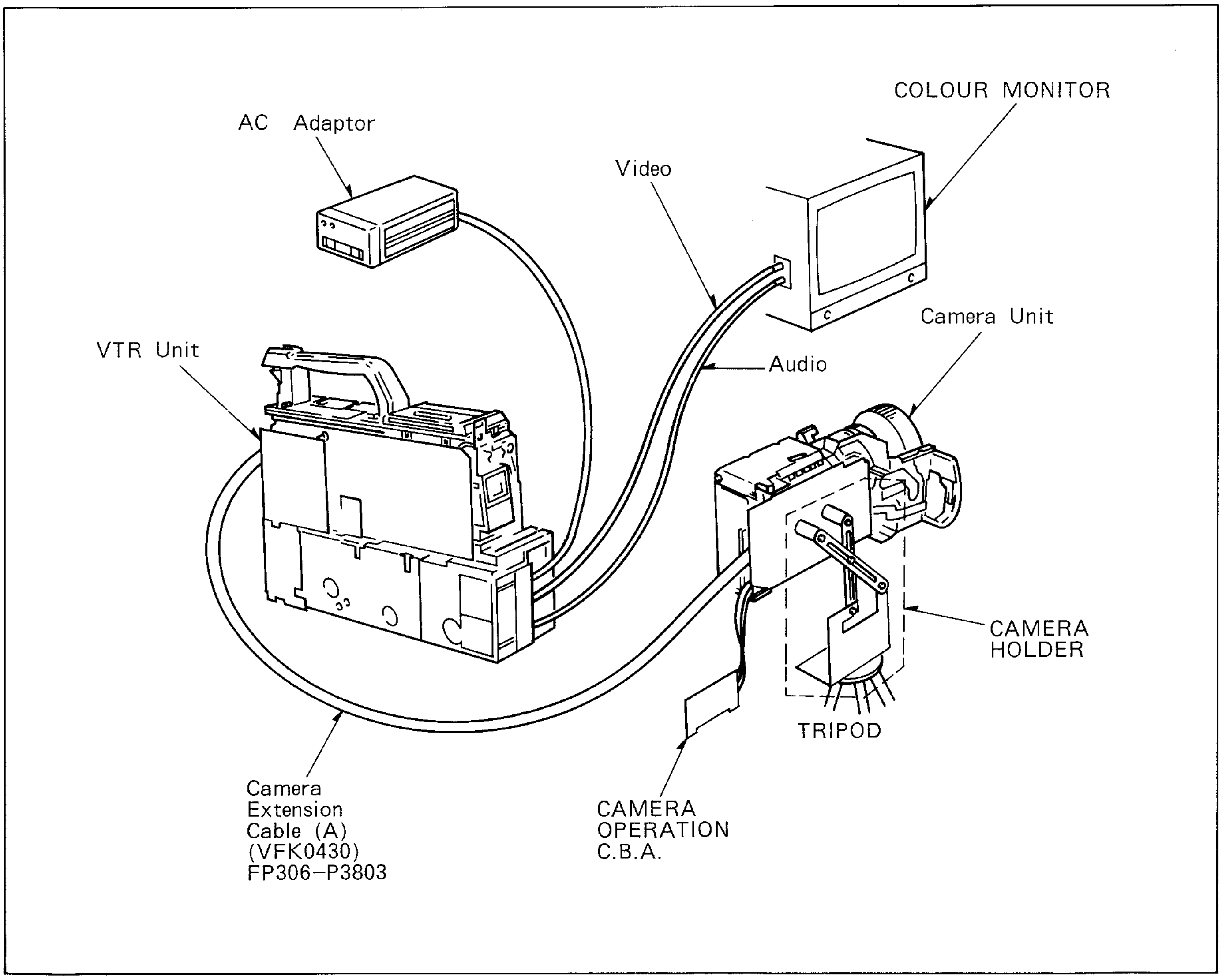

COLOUR MONITOR
AC Adaptor
Video
Camera Unit
VTR Unit
Audio
CAMERA HOLDER
TRIPOD
Camera Extension Cable (A) (VFK0430) FP306–P3803
CAMERA OPERATION C.B.A.

Fig. T1

2. HOW TO USE CAMERA HOLDER ARM (VEK0431)

This Camera Holder Arm which is adjustable the span must be mounted to VFK0382 (Camera Holder of NV–M5) and it can be used with VFK0432 for camera adjustments or checking for NV–M10.

(A) –––	VFK0613	Holder Spacer (2pcs)
(B) –––	VFK0431	Camera Holder Arm
(C) –––	XSN26+25	Screw (2pcs.)
(D) –––	VFK0382	Camera Holder

(1) Fix the Holder Arm (4) and (5) temporarily by screw (1) as shown in Fig. T2.
(2) Mount the Camera Holder Arm (B) to the Camera Holder (D) by screws (2) and (3) as shown in Fig. T3.
(3) Tightn the screws (C) with the Holder Spacers (A) as shown in Fig. T2.

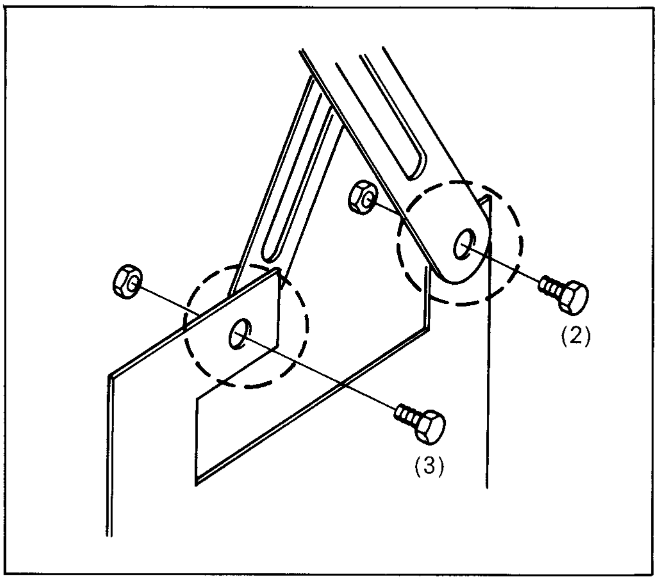


Fig. T3

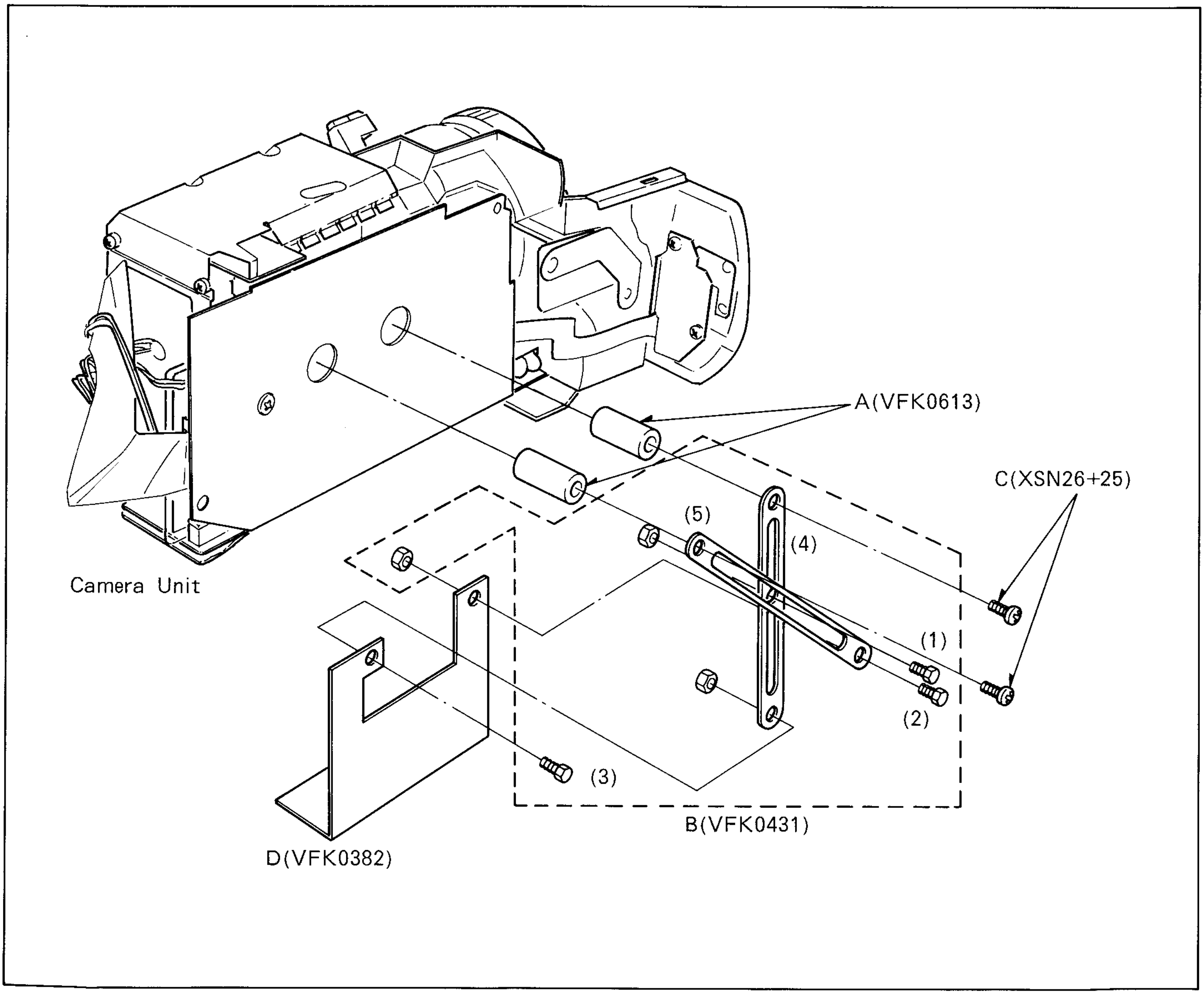


Fig. T2

3. SERVICE THE CAMERA SECTION

When servicing the Camera Section, connection of 18Pin Extension Cables (B) (VFK0380X2pcs) is necessary as shown in Fig. T4.

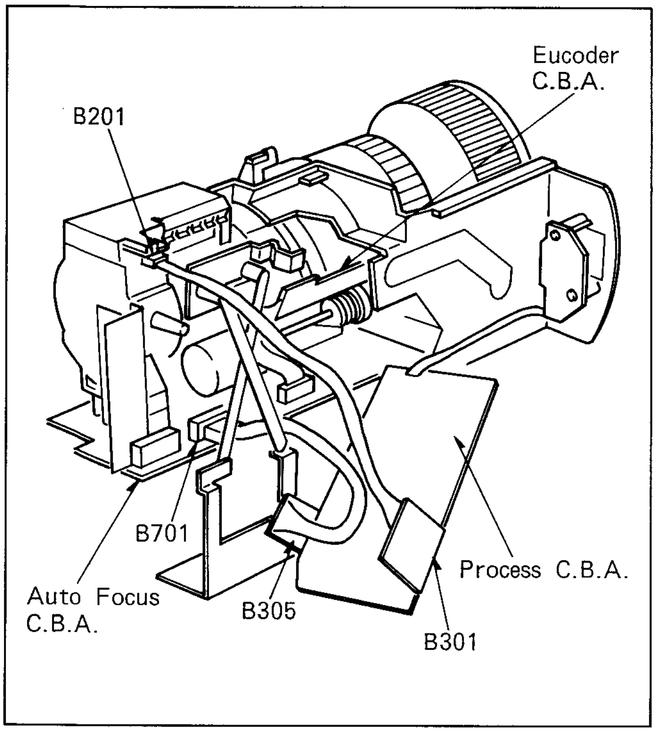

Eucoder C.B.A.
B201
B701
Auto Focus C.B.A.
B305
Process C.B.A.
B301

Fig. T4

4. HOW TO REPLACE THE LENS UNIT

1. REPLACEMENT AND ADJUSTMENT PROCEDURES
(REPLACEMENT OF FOCUS LENS UNIT)

(1) Remove the Camera Unit from the VHS Movie.
(2) Remove the C.B.As (Proscess, Auto Focus, Sensor) and Lens Cover from Camera Unit.
(3) Unscrew the Screw (A) and remove the zoom Motor Unit.
(4) Unscrew the Screw (B) amd remove the Focus Motor Unit.
(5) Unscrew the Screw (C) and remove the Focus Drive Unit.
(6) Unscrew the Screw (D) and remove the Encoder C.B.A.
(7) Unscrew the Screw (E) and remove the Lens Angle B.

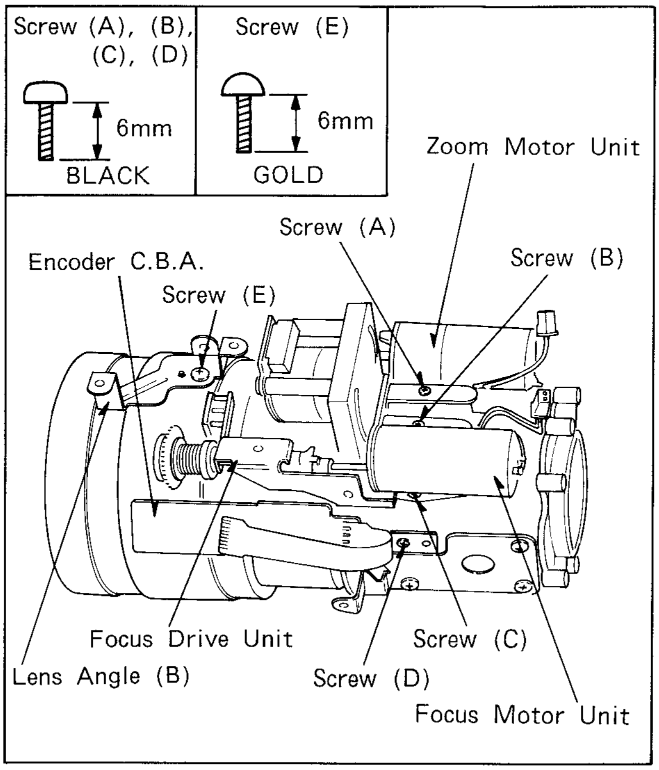

Screw (A), (B), (C), (D)
6mm
BLACK
Screw (E)
6mm
GOLD
Zoom Motor Unit
Screw (A)
Encoder C.B.A.
Screw (B)
Screw (E)
Focus Drive Unit
Screw (C)
Lens Angle (B)
Screw (D)
Focus Motor Unit

Fig. T5

(8) Remove the Focus Fastener and Tape as shown in below.
(9) Remove the Focus Ring by turning the Focus Adjustment Pitch to the counter clockwise.

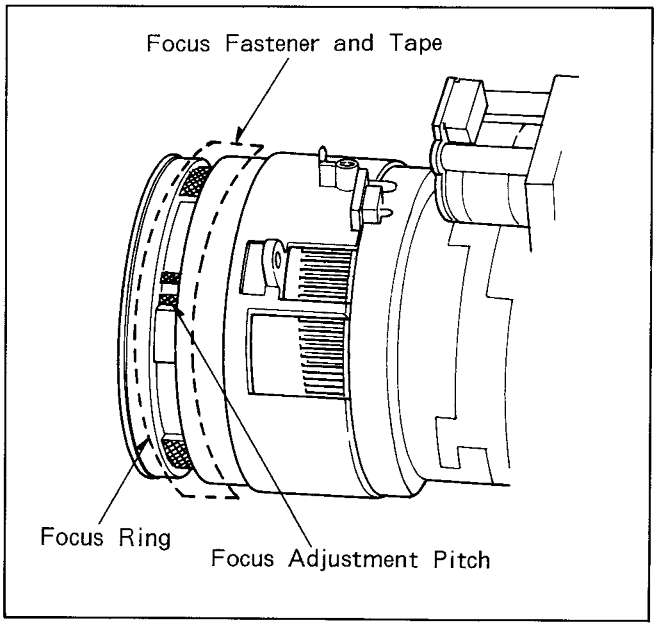

Focus Fastener and Tape
Focus Ring
Focus Adjustment Pitch

Fig. T6

(10) Unscrew 4 Screws (F) and remove the Focus Lens Unit with Iris Unit as shown in below.

(11) Remove the Iris Unit from Focus Lens Unit and replace the Focus Lens Unit.

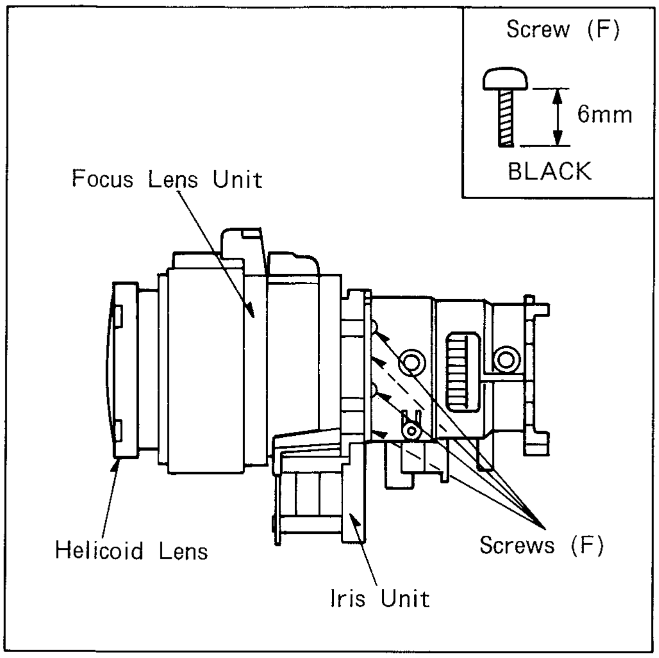

Screw (F)
6mm
BLACK
Focus Lens Unit
Helicoid Lens
Screws (F)
Iris Unit

Fig. T7

[ADJUSTMENT PROCEDURES]

Note:

Do not remove the Helicoid Lens from Focus Lens Unit because they have the relationship to be paired.
If the Helicoid Lens is happened to be removed, the Helicoid Lens should be installed as following step.

a. Install the Helicoid Lens so that the projection with groove on Helicoid Lens comes to the portion "A" on lens unit as show in below.

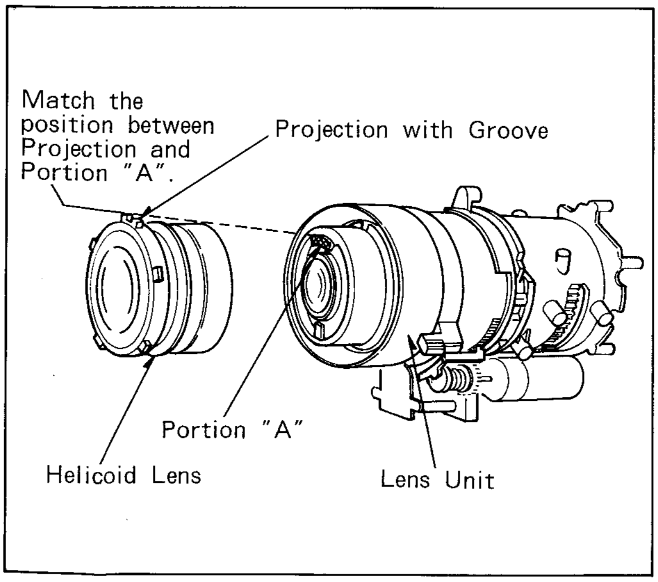

Match the position between Projection and Portion "A".
Projection with Groove
Portion "A"
Helicoid Lens
Lens Unit

Fig. T8

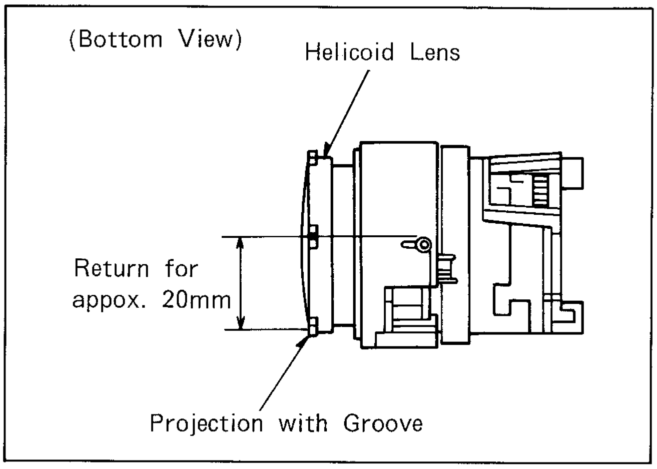

(Bottom View)
Helicoid Lens
Return for appox. 20mm
Projection with Groove

Fig. T9

(12) After replacing the Focus Lens Unit, Install the Iris Unit to Focus Lens Unit.

(13) Install the Focus Lens Unit with Iris Unit and then tighten 4 Screws (F) as shown in Fig. T7.

(14) Adjust the Helicoid Lens position as follows.

a. Turn the Helicoid Lens to fully clockwise and return it for approx. 20mm (so that next installation become easy) as shown in Fig. T9.

(15) Install the Focus Ring so that the Portion "B" on Focus Ring comes to Projection with Groove on Focus Lens Unit as shown below.

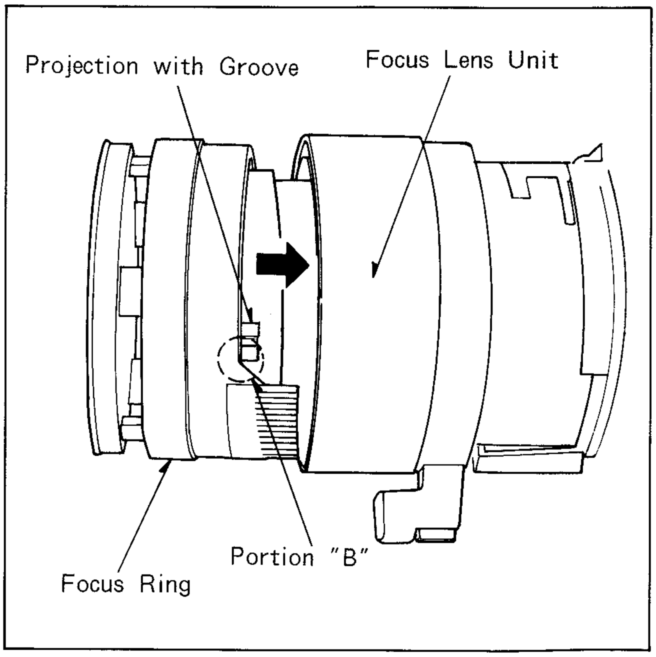

Projection with Groove
Focus Lens Unit
Portion "B"
Focus Ring

Fig. T10

(16) In order to lock the Focus Ring, Turn the Focus Adjustment Pitch to clock wise.

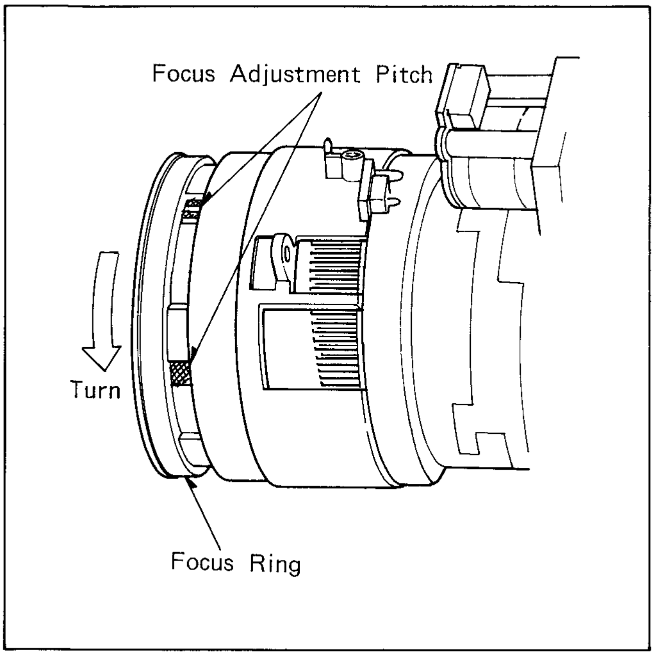


Fig. T11

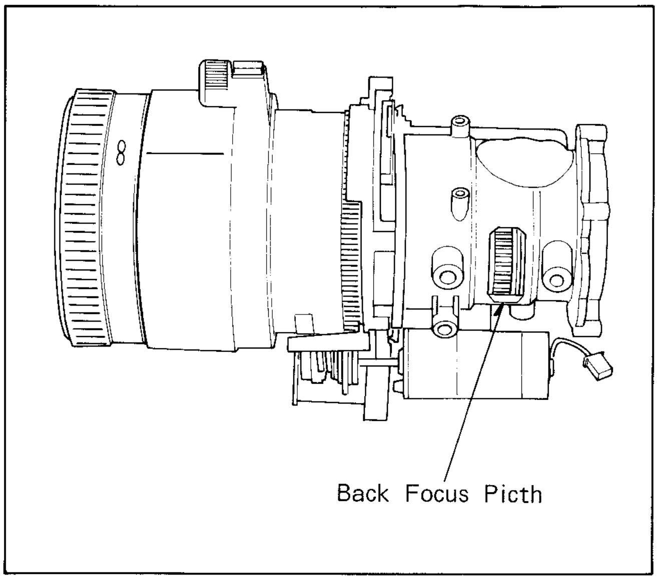


Fig. T12

(17) Install the Focus Fastener and Tape as shown in Fig. T6.

(18) Install the C.B.As (Process, Auto Focus, Sensor, Encoder) and Zoom Motor in reverse assembly order.

(19) After installation of the Focus Ring, Adjust the position of Back Focus Picth as follows.

a. Prepare the Hunting chart for object and aim the camera at the hunting chart 3m distance.
b. Focus the Lens on the object.
c. Confirm that Focus Ring indicates 3m.
d. Adjust the Back Focus Pitch so that the sharpest focus is obtained.
e. Zoom all the way back and adjust hte Back Focus Pitch so that the sharpest focus is obtained.
f. Repeat the procedure as follows, Zoom In, Focus, Zoom Out and adjust the Back Focus Pitch until the best focus is obtained over the entire zoom range.

SERVICE INFORMATION

1-1. HOW TO CHECK THE CRACKED CHIP PART

(1) Apply heat to the soldered portions of chip part using a soldering iron for about 2–3 seconds.
(2) If the chip part is faulty, it will be broken or cracked.

Caution: Do not leave soldering iron on the PCB too long as damage may occur to the PCB or the chip parts.

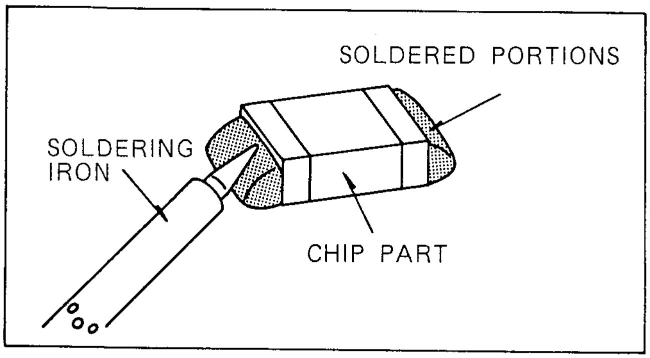

SOLDERED PORTIONS
SOLDERING IRON
CHIP PART

FIG. G1

Note: Regarding intermittent faults
The main causes of these faults are poor soldering and cracked chip parts.

1-2. HOW TO REPLACE THE CHIP PART

1) REMOVAL (RESISTOR, CAPACITOR, etc...)

(1) Presolder the one side of soldering portion for chip part and grasp the chip part by tweezers.

(2) Melt the presoldered portion. And then remove the chip part with a twisting motion while melting the soldering portion of another side quickly.

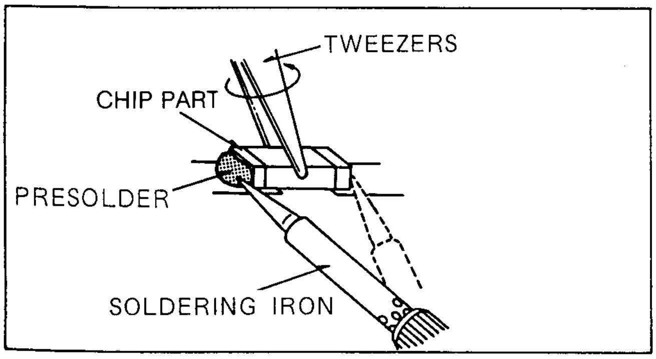

TWEEZERS
CHIP PART
PRESOLDER
SOLDERING IRON

FIG. G2

2) REMOVAL (transistor, diode, etc...)

(1) Grasp the chip part with tweezers and melt the solder of one lead.

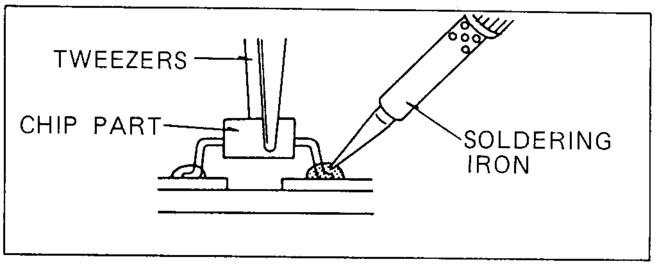

TWEEZERS
CHIP PART
SOLDERING IRON

FIG. G3

(2) Lift the side of that lead upward.

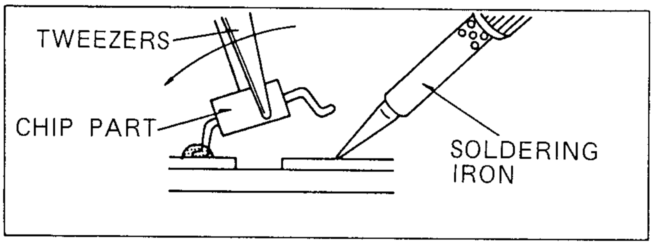

TWEEZERS
CHIP PART
SOLDERING IRON

FIG. G4

Caution: Do not lift the chip part too high as damage may occur to the PCB or the leads that are still soldered on the PCB.

(3) Simultaneously heat the solder of the two remaining leads and lift part to remove.

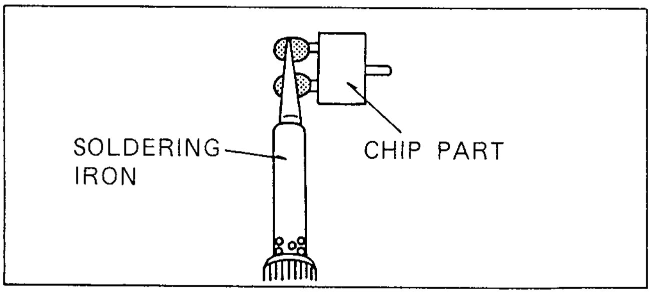

SOLDERING IRON
CHIP PART

FIG. G5

3) INSTALLATION

(1) Presolder the one side of contact point on the circuit board.

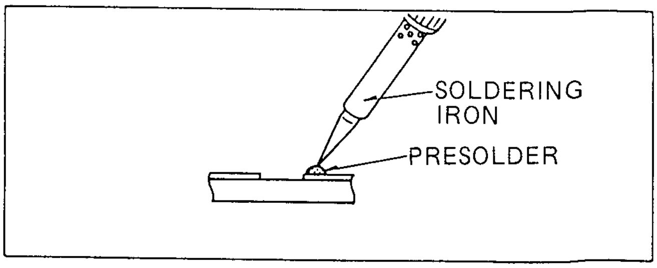

SOLDERING IRON
PRESOLDER

FIG. G6

(2) To install the chip part,hold in position using tweezers, apply heat to the pre-soldered portions using a fine tip soldering iron.
(3) Solder the other side of the chip part.
(4) Check your soldering.

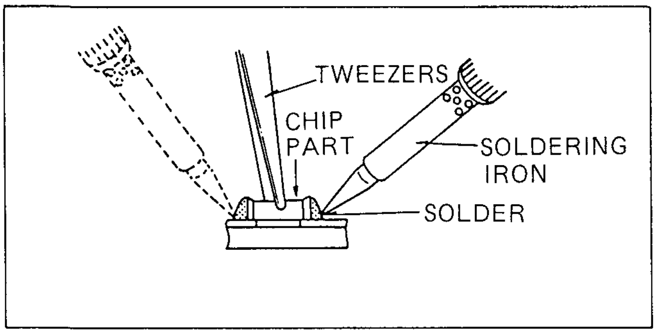

TWEEZERS
CHIP PART
SOLDERING IRON
SOLDER

FIG. G7

1-3.HOW TO REMOVE THE FLAT-IC

(WITH HOT-AIR FLAT-IC DESOLDERING MACHINE)

(FOR EXAMPLE)

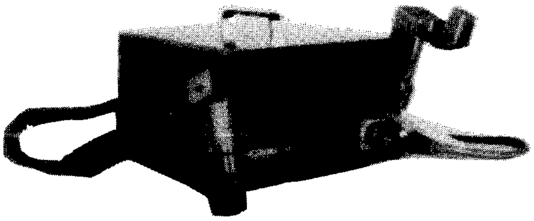


FIG. G8

(1) Prepare the HOT-AIR FLAT-IC DESOLDERING MACHINE. And then apply hot air to FLAT-IC about 5 ~ 8 seconds.

(2) Remove the FLAT-IC with tweezers while applying the hot air.

Caution: Do not supply the hot air to the chip parts around the Flat-IC for long time as as damage may occur to the chip parts around the Flat -IC.

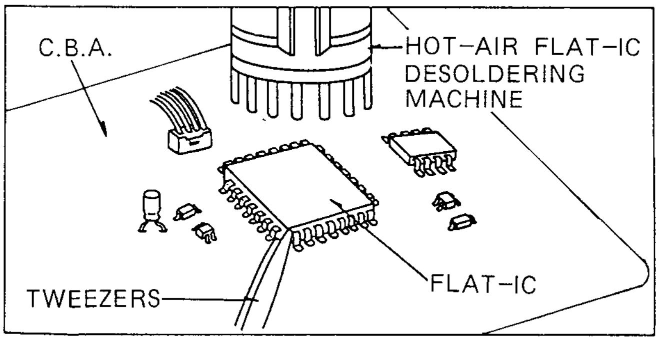

C.B.A.
HOT-AIR FLAT-IC DESOLDERING MACHINE
TWEEZERS
FLAT-IC

FIG. G9

(WITH SOLDERING IRON)

(1) Using solder braid remove the solder from all pins of the Flat-IC.
When you use the solder flux which is applied to all pins of the Flat-IC,you can remove it easily.

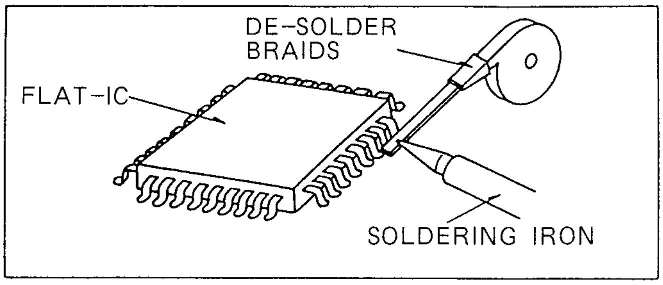

DE-SOLDER BRAIDS
FLAT-IC
SOLDERING IRON

FIG. G10

(2) Lift each lead of the Flat-IC upward one by one using a sharp pin or non solder wire(iron wire),while heating the pins using a fine tip soldering iron or a hot air blower.

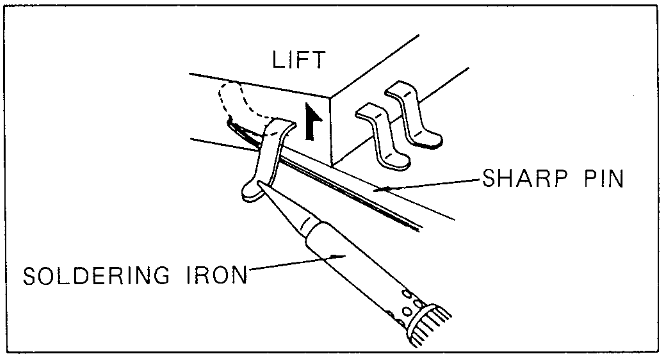

LIFT
SHARP PIN
SOLDERING IRON

FIG. G11

(WITH IRON WIRE)

(1) Affix the wire to workbench or solid mounting point as shown in FIG.G12.
(2) Pull up wire as the solder melts so as to lift the IC lead from the PCB contact pad,while heating the pins using a fine tip soldering iron or hot air blower.

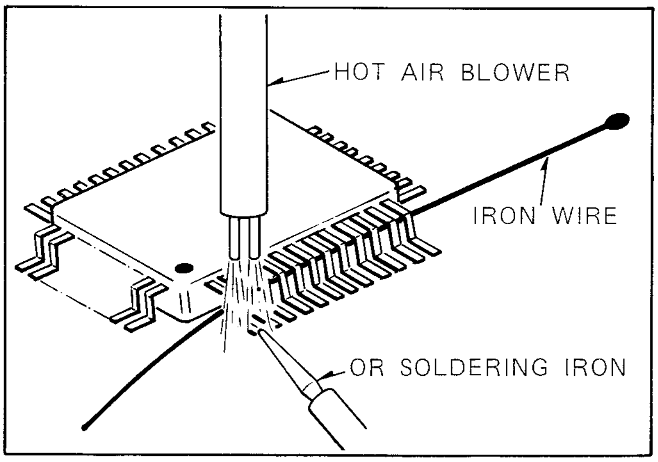
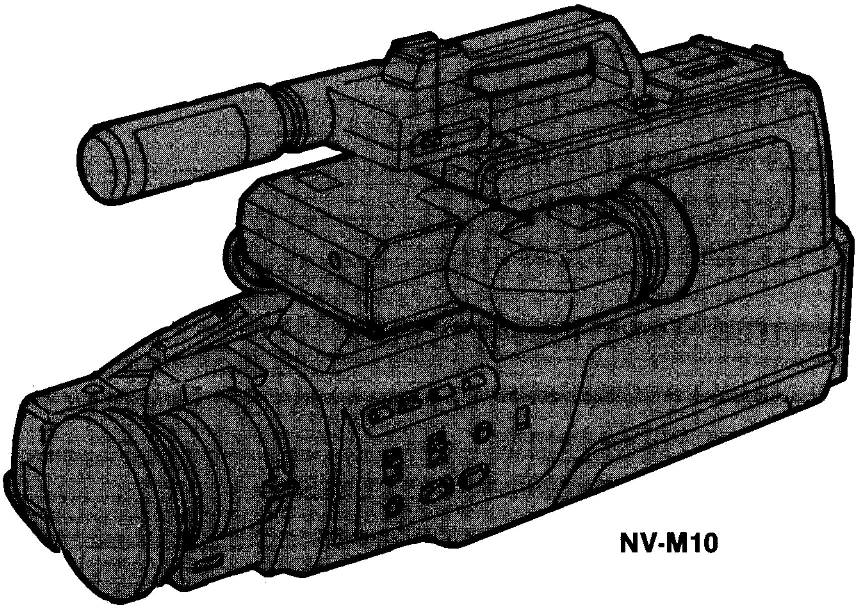

HOT AIR BLOWER
IRON WIRE
OR SOLDERING IRON

FIG.G12

Note: When using a soldering iron care must be taken to ensure that the Flat IC is not being held by glue before it is the PCB may be damaged if force is used.

VHS Movie

NV-M10 E/EW B/EA EG/A EO



NV-M10

SPECIFICATIONS

ITEM	SPECIFICATION
POWER	Source: BATTERY; DC 12V Consumption; Recording mode; 9.8W Stand-by mode; 1.0W (Battery operation)
VIDEO RECORDING SYSTEM	4 rotary heads, helical scanning system PAL
Hi-Fi AUDIO RECORDING SYSTEM	4 rotary heads, helical scanning system
TAPE FORMAT	VHS Cassette Tape (Tape width 12.7mm)
TAPE SPEED	23.39mm/s Record/Playback Time 240min. with NV-E240 FF/REW Time less than 12min. with NV-E180
CAMERA	Pick-up Element: CCD (Charge Coupled Device)
	Standard Illumination: 1,400 lux
	Minimum Required Illumination: 10 lux
	Lens: Built-in 8 Times 2 Speed Power Zoom Lens with MACRO Function, Auto Iris, Auto Focus System, F1.2 (8.5~68mm), Lens Front Diameter/ϕ49mm
	View Finder: 2/3″ Electric View Finder
VIDEO	Heads: 4 rotary heads, 1 flging erase head
	Input: ADAPTOR (10P); Y signal, $1.75^{+0.5}_{-0.2}$Vp-p 1.5kΩ DC 1.95±0.2V C Burst signal, 500±75mVp-p (RED/BURST 1.75±0.3Vp-p) 22kΩ DC 1.95±0.2V
	Output (PHONO Type): 1.0Vp-p 75Ω unbalanced

ITEM	SPECIFICATION
AUDIO	Head: 4 rotary heads (Hi-Fi Audio) 1 Stationary head (Normal Audio)
	Input: ADAPTOR (10P); −10dB, 47kΩ unbalanced MIC IN (M3); −70dB, 4.7kΩ unbalanced
	Output (PHONO Type): −8dB 600Ω unbalanced Head Phone (M3); −21dB, 32Ω unbalanced
WEIGHT	Approx. 2.7kg (without Battery Pack)
DIMENSIONS	133.2(W)×227.5(H)×425(D)mm
STANDARD ACCESSORIES	1 pc. AV Output Cable 1 pc. AC Adaptor 1 pc. Battery Pack 1 pc. Shoulder Strap 1 pc. Battery for Clock 1 pc. Cassette Tape 1 pc. DC Input Cable 1 pc. System Carrying Case (NV-M10E/B/EO/A/EA) 1 pc. BNC/Phono Adaptor Plug (NV-M10E/B/EO/EG/EW) 1 pc. Battery Pack Charging Connector 1 pc. RF Adaptor (NV-M10B Only)

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

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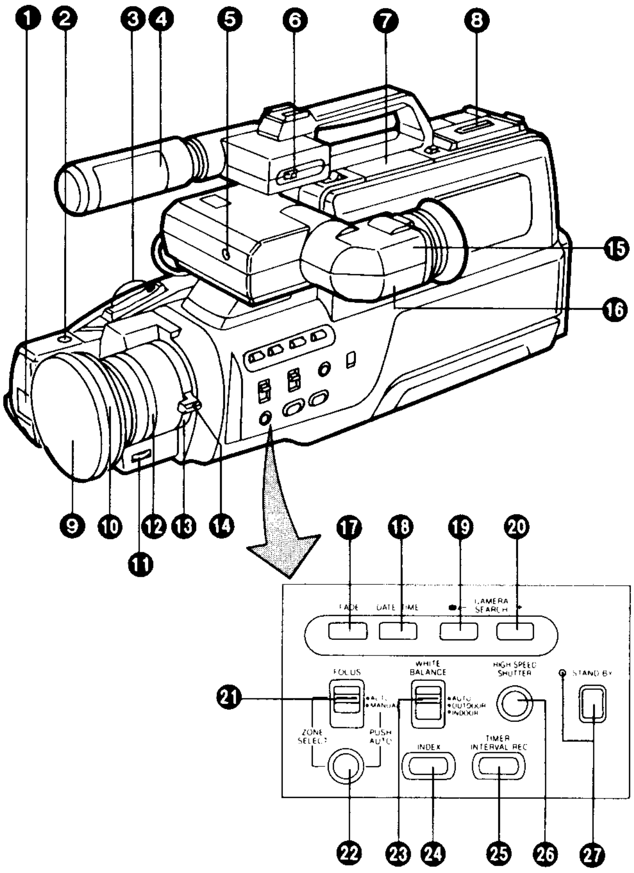
SECTION 1
GENERAL DESCRIPTION

1-1. CONTROLS AND COMPONENTS

RIGHT VIEW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FADE
DATE TIME
CAMERA SEARCH
㉑
FOCUS
AUTO
MANUAL
ZONE SELECT
PUSH AUTO
WHITE BALANCE
AUTO
OUTDOOR
INDOOR
HIGH SPEED SHUTTER
STAND BY
INDEX
TIMER INTERVAL REC
㉒
㉓
㉔
㉕
㉖
㉗

❶ White Balance Sensor Window
❷ Start/Stop Button
❸ Power Zoom Control Button
❹ Built-in Microphone
❺ Tally Indicator
❻ Microphone Select Switch

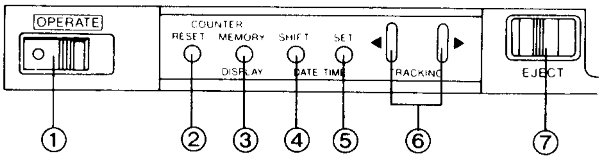
This movie camera is equipped with a stereo zoom microphone.
The characteristics and sensitivity of this microphone can be selected with the Microphone Selector as follows:

WIDE: To record the sound with optimum stereo effect.
Under normal shooting conditions, this setting is generally used.

TELE: To increase the sensitivity when recording sound from a distant source.

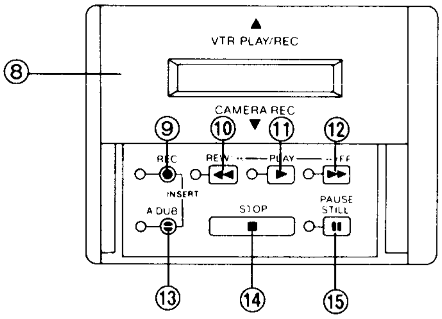
ZOOM: In this setting, the characteristics and sensitivity of the microphone are automatically adjusted according to the setting of the zoom lens.
When the lens is zoomed in on a distant subject, the microphone is similarly zoomed in on it; and when the lens zoomed back for a wide-angle shot, the microphone is similarly zoomed back to capture the sound with full stereo effect.

❼ General Operation Controls


OPERATE
COUNTER
RESET
MEMORY
DISPLAY
SHIFT
DATE TIME
SET
TRACKING
EJECT
①
②
③
④
⑤
⑥
⑦

① Operation On/Off Switch
② Reset Button
③ Memory Button
④ Date Shift Buton
⑤ Date Set Button
⑥ Tracking Adjust Buttons
⑦ Eject Switch

❽ Tape Running Buttons


VTR PLAY/REC
⑧
CAMERA REC
⑨
⑩
⑪
⑫
REC
REW
PLAY
FF
INSERT
A.DUB
STOP
PAUSE STILL
⑬
⑭
⑮

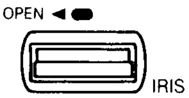
⑧ **Function of the Camera/VTR Selector Cover**

Closed	For camera recording.
Open (as illustrated)	For other operations than camera recording.

⑨ Record Button
⑩ Rewind/Review Button
⑪ Play Button
⑫ Fast Forward/Cue Button
⑬ Audio Dubbing Button
⑭ Stop Button
⑮ Pause/Still Button

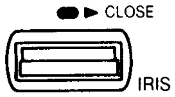
❾ Lens Cap
❿ Lens Hood
⓫ Iris Close/Open Control

When a Subject is backlit:
Turn in the "OPEN" direction.



- When shooting a backlit subject, be careful that the lens is not aimed at extremely bright light.

When the picture is too bright:
Turn in the "CLOSE" direction.



- For normal lighting conditions, this control should be set to the centre detent position. (Automatic adjustment)

⑫ Focus Ring
⑬ Zoom Ring
⑭ Manual Zoom Lever with Macro Button
⑮ Electronic Viewfinder
⑯ Eyepiece Corrector Control
⑰ Fade Button
⑱ Date/Time Selector
⑲ Camera Search (−)/Rec Review Button

Camera Search for checking
longer recorded scenes.

Rec Review for a quick check
of the end of a recorded scene.

Camera Search Function (Sound is not reproduced)
In the recording pause mode, a recorded scene can be played back at high speed in reverse direction by keeping the Camera Search (−) Button pressed. Review Speed; and it can then be played back at normal speed in forward direction by keeping the Camera Search (+) Button pressed.

When the button is released, the VHS Movie will return to recording pause mode.

Rec Review Function
Press the Rec Review Button whilst the VHS Movie is in the recording pause mode.

- The last 2 seconds of the recorded scene will be played back and the VHS Movie will again stop in the recording pause mode, ready for further recording.

⑳ Camera Search (+)/Button
㉑ Focus Mode Selector
㉒ Focus Adjusting Button/Zone Selector
㉓ White Balance Mode Selector
㉔ Index Signal Recording Button

Notes about Recording the Index Signal (VISS)
The recording of index signals at the beginning of and during recordings makes possible the use of the VHS Index Search or the Intro Scan function when playing back the tape on a VTR equipped with the VISS function.
An index signal is recorded when one of the following operations is performed.

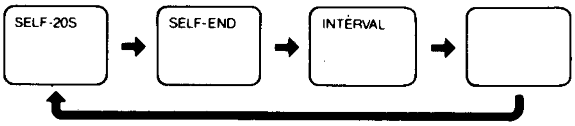
- When recording is started for the first time after the VHS Movie is turned on.
- When recording is restarted after the cassette is exchanged or the tape is played back.
- When the Index Signal Recording Button is pressed during recording.

In each of these cases, the "INDEX" indication will flash for a few seconds in the EVF.

- When recording index signals, space the signals at least 2 minutes.

㉕ Timer/Interval Recording Button

■ **Pressing the Timer/Interval Recording Button repeatedly:**



- Depending on the TV set used, the top of the picture may become distorted when playing back scenes shot with the interval recording function.

Self-Timer Recording
10 Seconds after the self-timer function is activated on the VHS Movie, the recording will start.
If the VHS Movie is mounted on a tripod, this handy function allows the person behind the camera to join the action that is being recorded.

❶ Press the Timer/Interval Recording Button during recording pause to select the desired recording mode.
- When the Timer/Interval Recording Button is pressed once, "SELF-20S" will appear in the EVF, and when the button is pressed twice, "SELF-END" will appear in the EVF.

❷ Press the Start/Stop Button and the self-timer recording will start 10 seconds later.
- When "SELF-20S" is indicated, the recording will be made for 20 seconds.
When "SELF-END" is indicated, the recording will be made until the tape reaches its end.

To stop the Self-Timer Recording Midway
Press the Start/Stop Button, and the self-timer recording will be cancelled.

Interval Recording
This recording function automatically makes recordings of approx. 1 second duration at 1-minute intervals. The interval recording will continue until the end of the tape is reached or for a maximum of 10 hours, after which the VHS Movie will turn itself off.

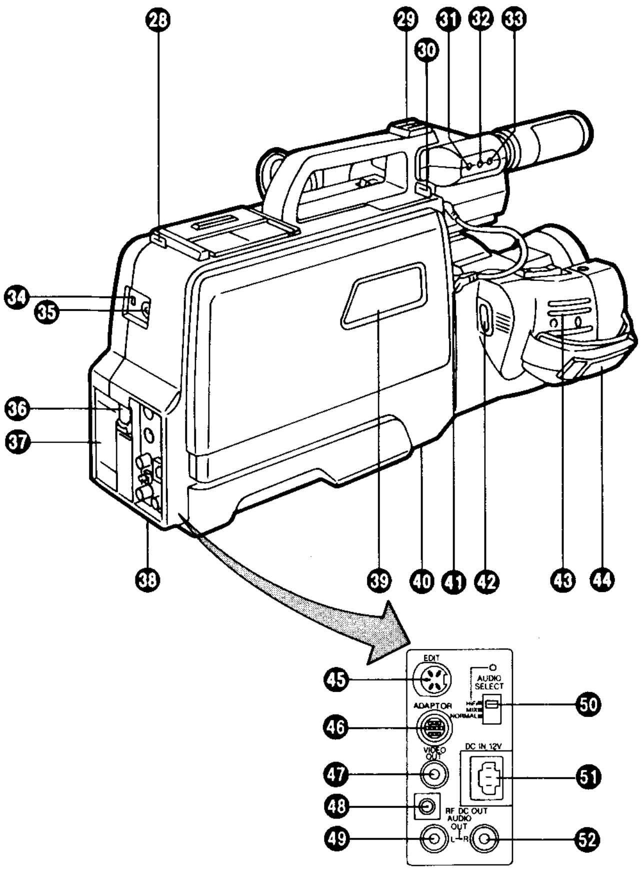
❶ Press the Timer/Interval Recording Button three times during recording pause mode.

❷ Press the Start/Stop Button.

To stop the Interval Recording Midway
Press the Start/Stop Button, and the interval recording will be cancelled.

㉖ High Speed Shutter Selector
㉗ Standby Button with Indicator

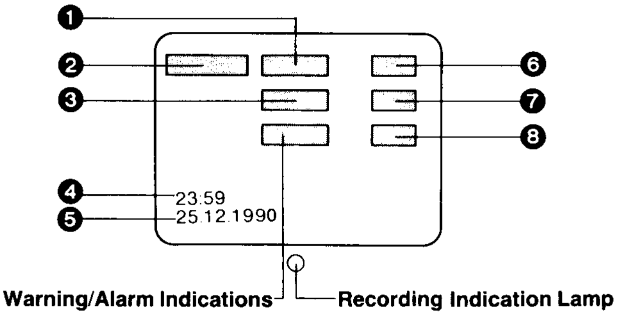
LEFT VIEW



- ㉘ Metal Fitting for Shoulder Strap
- ㉙ Accessory Shoe
- ㉚ Metal Fitting for Shoulder Strap
- ㉛ Headphones Socket
- ㉜ DC Power Output Socket
- ㉝ External Microphone Socket
- ㉞ Edit Switch
- ㉟ Remote Control Socket
- ㊱ Battery Eject Button
- ㊲ Battery Compartment
- ㊳ Battery Compartment for Auto Date/Clock
- ㊴ Cassette Compartment
- ㊵ Tripod Receptacle
- ㊶ EVF/Character Generator Terminal
- ㊷ Start/Stop Button
- ㊸ Handgrip
- ㊹ Grip Belt
- ㊺ Edit Socket
- ㊻ Adaptor Socket (NV-M10EO/EW/A/EA)
- ㊼ Video Output Socket
- ㊽ RF DC Output Socket
- ㊾ Audio Output Socket (L)
- ㊿ Audio Select Switch
- (51) DC Input Socket
- (52) Audio Output Socket (R)

1-2. ELECTRONIC VIEWFINDER

The following indications are displayed in the Electronic Viewfinder (EVF) to inform you of the operating conditions of the VHS Movie.



BATT	There is little battery power left. The VHS Movie will be turned off in a few minutes. Replace the battery pack by a fully recharged one.
TAPE	It is impossible to record because the erasure prevention tab of the cassette is not intact.
END	During recording, the tape has reached its end. Replace the tape with a new one.
DEW	When condensation has formed inside the VHS Movie, the "DEW" indication will flash and a few seconds later, the unit will turn itself off.
⊗	Video Head Clogging.

❶ Remaining Battery Power/Index Indication

E----F	The "▬" indications begin to disappear from right to left as the power of the battery pack weakens.
INDEX	This indicator flashes when a recording is started or when the Index Signal Recording Button is pressed and it indicates that an index signal is being recorded.

❷ Self-Timer/Interval Indication

SELF-20S	Self-timer recording for 20 secondes.
SELF-END	Self-timer recording until the end of the tape.
INTERVAL	Recordings of approx. 1 second will be made at 1-minute intervals for up to 10 hours.

❸ Counter Indication

M0501	Tape Counter
0:12.34	Lap Time Counter

❹ Clock Indications

❺ Date Indications

❻ Camera Mode Indication

PAUSE	Recording Pause, Rec Review
REC	Recording
◁ ◁	Camera Search (In reverse direction)
▷	Camera Search (In forward direction)

VTR Mode Indication

◁ ◁	Rewind/Review
▷ ▷	Fast Forward/Cue
▷	Play
❙❙	Still
INST▷	Insert
INST❙❙	Insert Pause
A.DUB▷	Audio Dubbing
A.DUB❙❙	Audio Dubbing Pause
REC▷	Recording
REC❙❙	Recording Pause

❼ High Speed Shutter Mode Indication

1/500	1/500 sec.
1/1000	1/1000 sec.

❽ Manual White Balance Indication

OUT	OUTDOOR
IN	INDOOR

- Some of the above indications may light up alternately at the same place in the EVF to indicate the corresponding operating condition or warning.

1-3. VHS MOVIE SYSTEM ACCESSORIES

Standard Accessories

○: Supplied
× : Not Supplied

	NV-M10E	NV-M10B	NV-M10EG	NV-M10EO	NV-M10EW	NV-M10A	NV-M10EA
AC Adaptor	○	○	○	○	○	○	○
Battery Pack	○	○	○	○	○	○	○
Shoulder Strap	○	○	○	○	○	○	○
System Carrying Case	○	○	×	○	×	○	○
BNC/PHONO Adaptor Plug	○	○	○	○	○	×	×
AV Output Cable	○	○	○	○	○	○	○
Battery Pack Charging Connector	○	○	○	○	○	○	○
Battery for Clock Operation	○	○	○	○	○	○	○
DC Input Cable	○	○	○	○	○	○	○
RF Adaptor	×	○	×	×	×	×	×

Optional Accessories

Line Adaptor (VW-KM10E: NV-M10EO/EW/A/EA)

Pause Remote Contral Unit (VW-RM1)

System Carrying Case (VW-SHM10E: NV-M10EO/EW)

Character Generator (VW-CG2)

Shoulder Pad (VW-SP7)

Car Battery Cord (VW-ACM10E)

RF Adaptor (VW-RF7E)

Synchro Cord (VW-K1: NV-M10B Only)

Editing Controller (VW-EC300E: NV-M10B Only)

SECTION 2
ADJUSTMENT PROCEDURES

2-1. DISASSEMBLY PROCEDURES

2-1-1. DISASSEMBLY FLOW CHART

This flow chart indicates disassembly steps for the cabinet parts and the P.C boards in order to find the items necessary for servicing.
When reassembling perform the steps in the reverse order.

Note:

(1) When removing the cabinet, work with care so as not to break the locking tabs.
(2) Place a cloth or some other soft material under the P.C. boards or Unit to prevent damage.
(3) When re-installing, ensure that the connectors are connected and electrical components have not been damaged.
(4) Do not supply power to the Unit during disassembly.

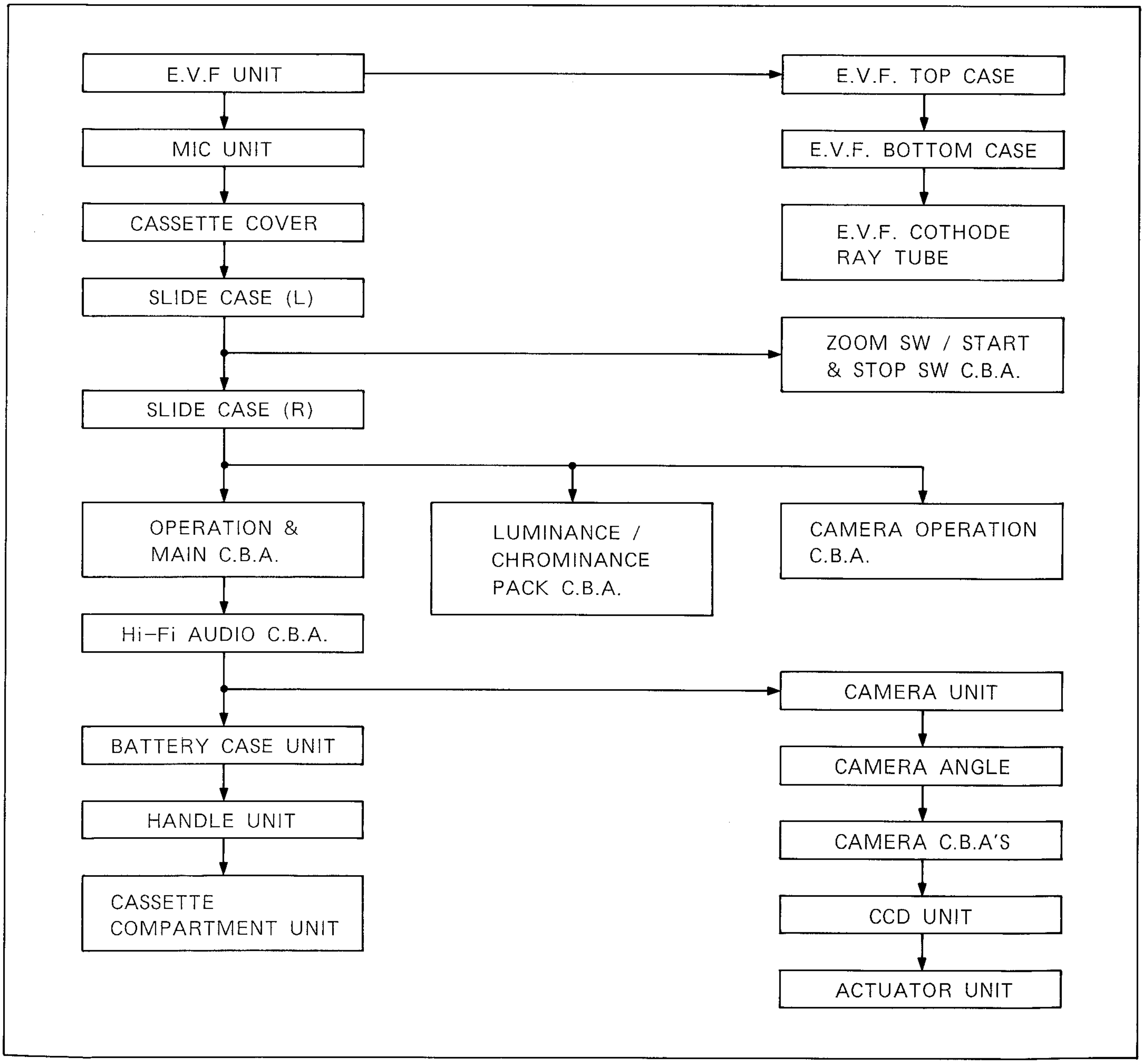

E.V.F UNIT
MIC UNIT
CASSETTE COVER
SLIDE CASE (L)
SLIDE CASE (R)
OPERATION & MAIN C.B.A.
Hi-Fi AUDIO C.B.A.
BATTERY CASE UNIT
HANDLE UNIT
CASSETTE COMPARTMENT UNIT
E.V.F. TOP CASE
E.V.F. BOTTOM CASE
E.V.F. COTHODE RAY TUBE
ZOOM SW / START & STOP SW C.B.A.
LUMINANCE / CHROMINANCE PACK C.B.A.
CAMERA OPERATION C.B.A.
CAMERA UNIT
CAMERA ANGLE
CAMERA C.B.A'S
CCD UNIT
ACTUATOR UNIT

Fig. D1

2-1-2. DETAILED DISASSEMBLY METHOD

1. REMOVAL OF E.V.F. UNIT

(1) Remove the E.V.F. Unit connector.
(2) Slide the E.V.F. Unit in the direction shown by the arrow.
(3) Remove the E.V.F. Unit while pushing on the Locking Lever on the bottom of the Unit.

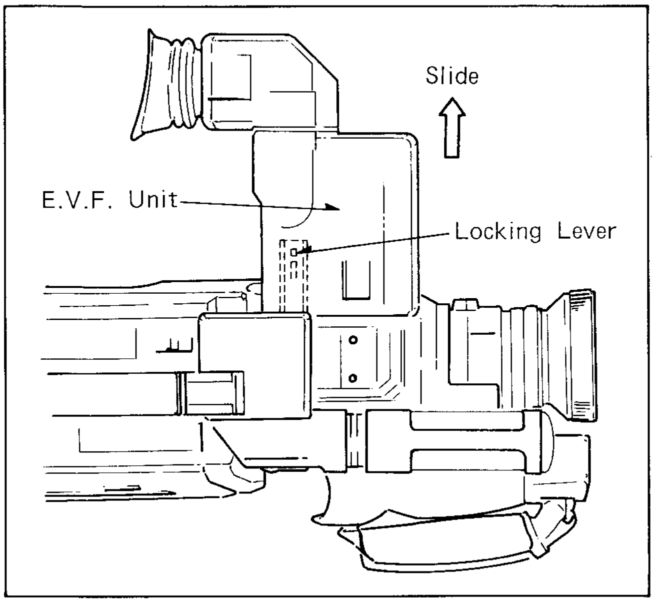

Slide
E.V.F. Unit
Locking Lever

Fig. D2

2. REMOVAL OF MIC UNIT

(1) Remove 2 Screws (A) and (B).
(2) Slide the MIC Unit in the direction shown by the arrow.
(3) Disconnect 2 Connectors on the MIC Unit.

Screw (A)	Screw (B)	Screw (D)
6mm	16mm	6mm
BLACK	BLACK	BLACK

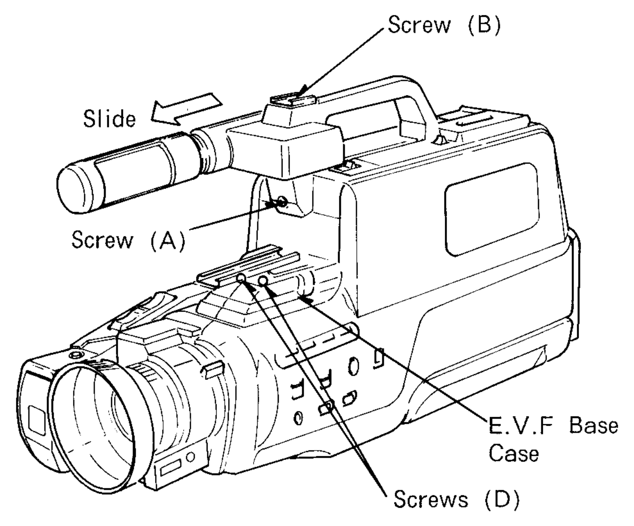
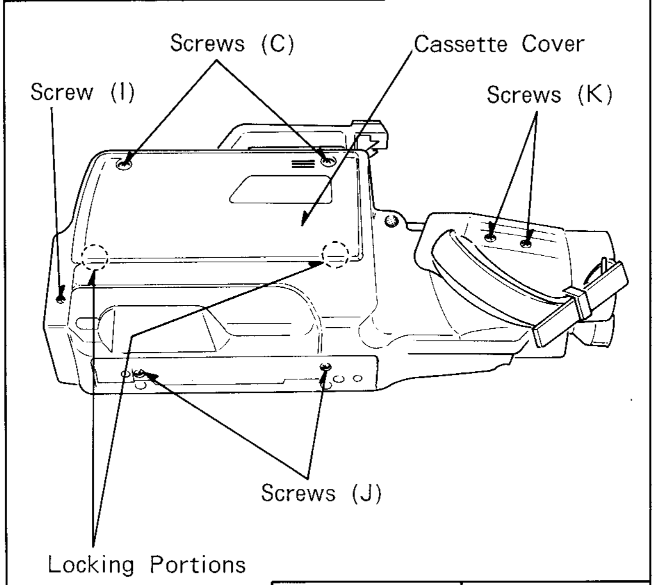

Screw (B)
Slide
Screw (A)
E.V.F Base Case
Screws (D)

Fig. D3

3. REMOVAL OF CASSETTE COVER

(1) Remove 2 Screws (C).
(2) Pull the Cassette Cover straight up to remove.

Screw (C)	Screw (I)
6.5mm	6mm
BLACK	BLACK


Screws (C)
Cassette Cover
Screw (I)
Screws (K)
Screws (J)
Locking Portions

Screw (J)	Screw (K)
8mm	8mm
BLACK	BLACK

Fig. D4

Note:

Be carefull not to damage the Locking Portions when removing or realigning the Cassette Cover.

4. REMOVAL OF SIDE CASE (R) UNIT

(1) Remove 2 Screws (D) shown in Fig. D3.
(2) Remove the E.V.F. Base Case.
(3) Remove 2 Screws (E), 2 Screws (F), 2 Screws (G) and Screw (H).
(4) Lift the Side Case (R) Unit slightly. Then disconnect 4 Connectors on the Side Case (R) Unit.

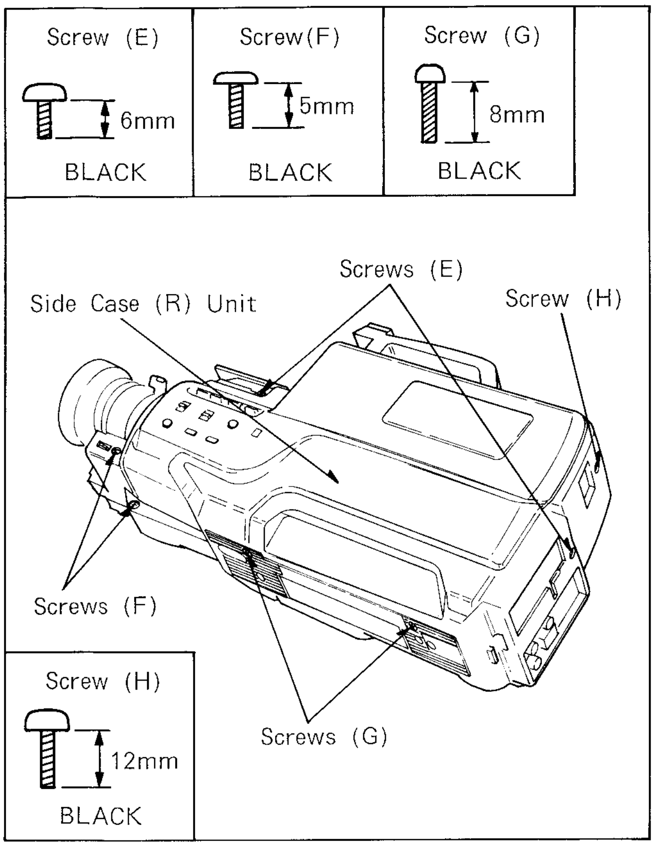

Screw (E)
6mm
BLACK
Screw(F)
5mm
BLACK
Screw (G)
8mm
BLACK
Screws (E)
Side Case (R) Unit
Screw (H)
Screws (F)
Screw (H)
12mm
BLACK
Screws (G)

Fig. D5

5. REMOVAL OF SIDE CASE (L) UNIT

(1) Remove Screw (I), 2 Screws (J) and 2 Screws (K) shown in Fig. D4.
(2) Remove the Lens Hood and then remove Screw (L) shown in Fig. D6.
(3) Lift the Side Case (L) Unit slightly.
Then disconnect the Connector.

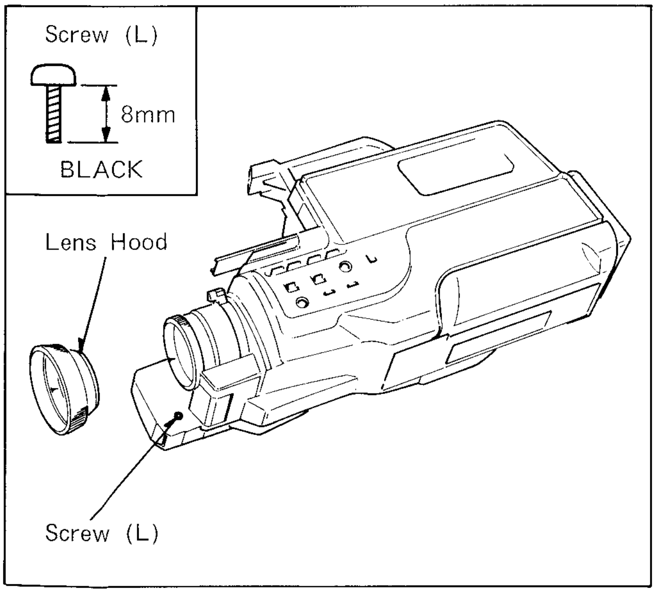

Screw (L)
8mm
BLACK
Lens Hood
Screw (L)

Fig. D6

6. REMOVAL OF OPERATION PANEL UNIT

(1) Unlock 4 Locking Tabs (M).
(2) Lift the Operation Panel Unit up slightly.

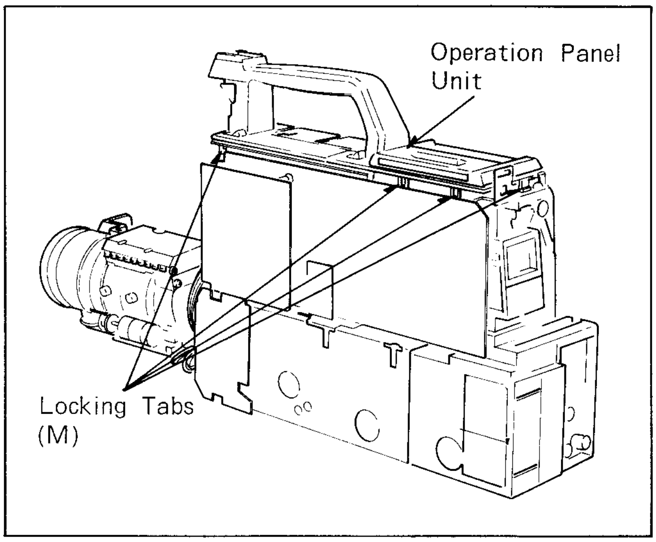

Operation Panel Unit
Locking Tabs (M)

Fig. D7

7. OPENING OF OPERATION/MAIN C.B.A.

(1) Remove 2 Screws (N) and then unsnap 5 Locking Tabs (O).
(2) Open the Operation / Main C.B.A. slightly.
(3) Disconnect the Connector P6016 on Main C.B.A.

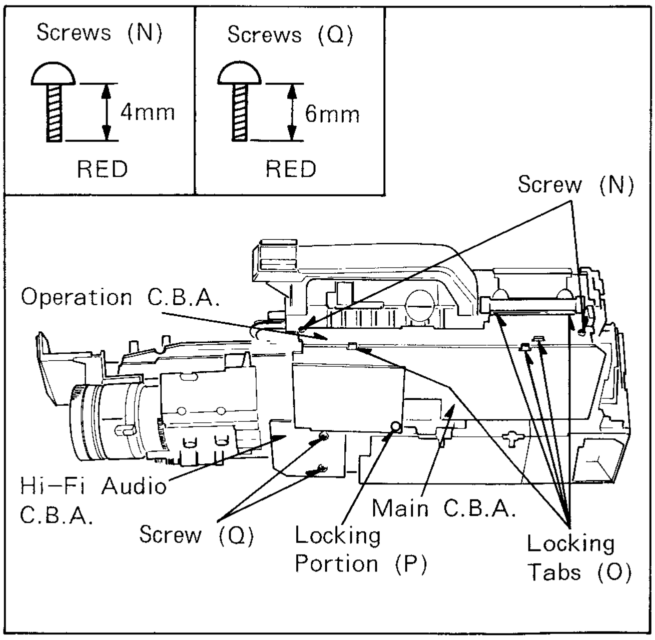

Screws (N)
4mm
RED
Screws (Q)
6mm
RED
Screw (N)
Operation C.B.A.
Hi-Fi Audio C.B.A.
Screw (Q)
Locking Portion (P)
Main C.B.A.
Locking Tabs (O)

Fig. D8

8. OPENING OF LUMINANCE/CHROMINANCE PACK C.B.A.

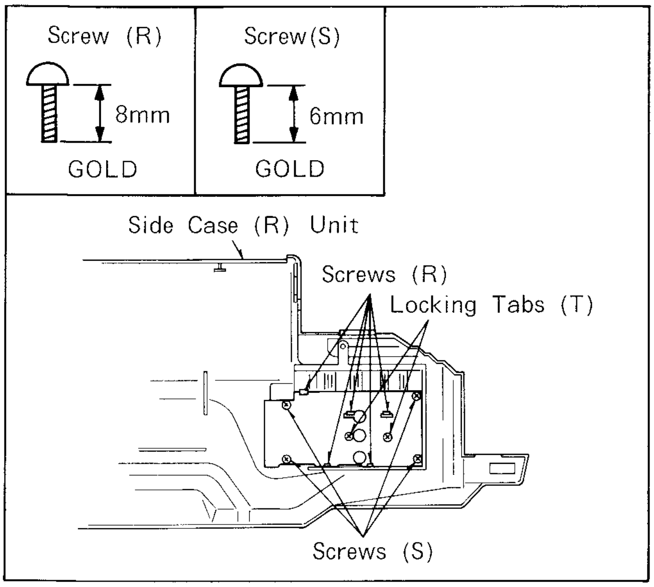
(1) Unlock the Locking Portion (P) shown in Fig. D8 and then open the Luminance / Chrominance Pack C.B.A. slightly.

9. REMOVAL OF Hi-Fi AUDIO C.B.A.

(1) Remove 2 Screws (Q) shown in Fig. D8.
(2) Lift the Hi-Fi Audio C.B.A. up slightly.

10. REMOVAL OF CAMERA OPERATION C.B.A.

(1) Remove 4 Screws (R) and 2 Screws (S).
(2) Unsnap 5 Locking Tabs (T) and then lift the Camera Operation C.B.A. up slightly.

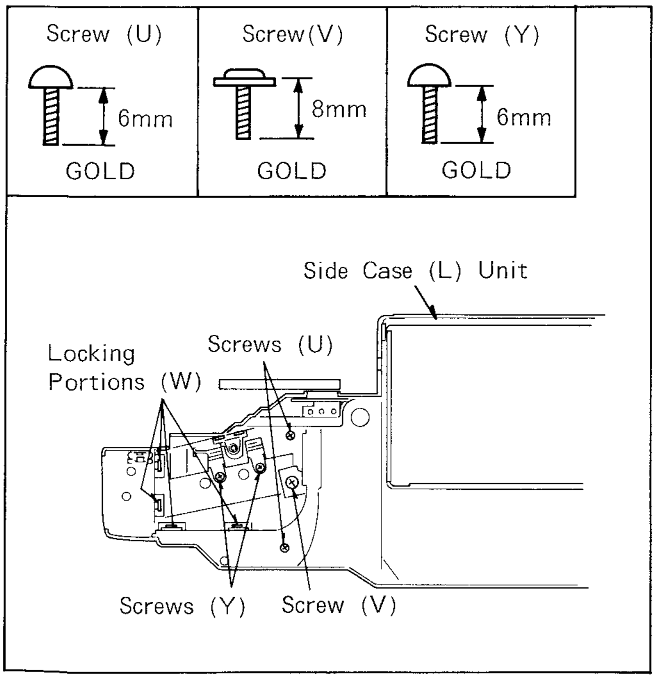


Screw (R)
8mm
GOLD
Screw(S)
6mm
GOLD
Side Case (R) Unit
Screws (R)
Locking Tabs (T)
Screws (S)

Fig. D9

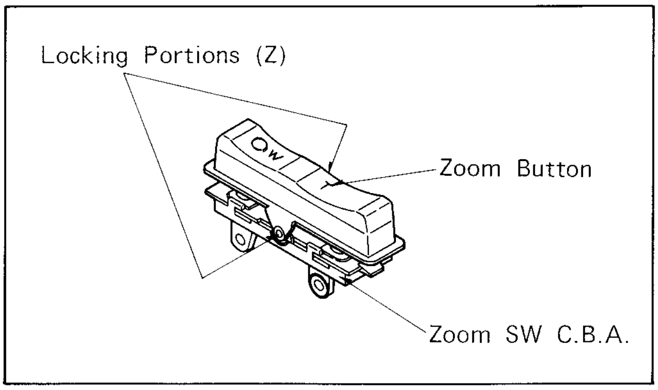
11. REMOVAL OF START/STOP SW C.B.A. AND ZOOM SW C.B.A.

(1) Remove 2 Screws (U) and Screw (V).
(2) Unlock 4 Locking Portions (W) and then remove the Grip Unit slightly.
(3) Unlock the Locking Portion and then lift the Start/Stop SW C.B.A. up slightly.
(4) Remove 2 Screws (Y) shown in Fig. D10 and then remove the Zoom SW Unit.
(5) Unlock 2 Locking Portions (Z) and then lift the Zoom Button up slightly.
(6) Remove the Zoom SW C.B.A.



Screw (U)
6mm
GOLD
Screw(V)
8mm
GOLD
Screw (Y)
6mm
GOLD
Side Case (L) Unit
Locking Portions (W)
Screws (U)
Screws (Y)
Screw (V)

Fig. D10

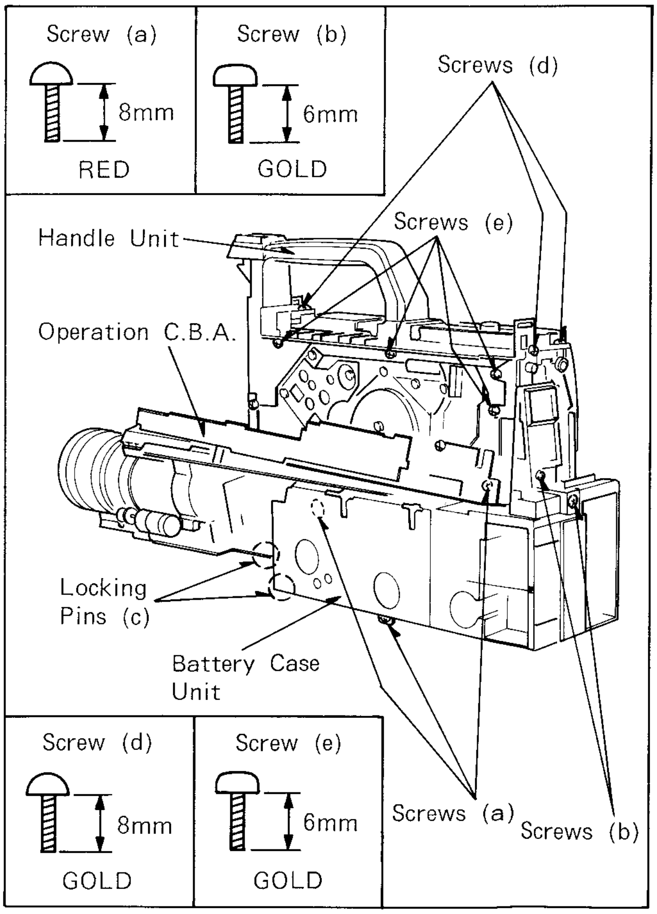


Locking Portions (Z)
Zoom Button
Zoom SW C.B.A.
W
T

Fig. D11

12. OPENING OF BATTERY CASE UNIT

(1) Open the Operation/Main C.B.A. shown in Fig. D12.
(2) Remove 3 Screws (a) and 2 Screws (b). Then lift the Battery Case Unit slightly in order to release it from 2 Locking Pins (c).
(3) Loosen wires located around the Battery Case Unit.



Screw (a)
8mm
RED
Screw (b)
6mm
GOLD
Screws (d)
Screws (e)
Handle Unit
Operation C.B.A.
Locking Pins (c)
Battery Case Unit
Screw (d)
8mm
GOLD
Screw (e)
6mm
GOLD
Screws (a)
Screws (b)

Fig. D12

13. REMOVAL OF HANDLE UNIT

(1) Remove 4 Screws (d) and 3 Screws (e) shown in Fig. D12.
(2) Remove the Handle Unit.

14. REMOVAL OF CASSETTE COMPARTMENT UNIT

(1) Remove 4 Screws (f) and then remove the Cassette Compartment Unit.

Note:

When re–installing the Cassette Compartment Unit, install it in the closed (cassette down) condition.

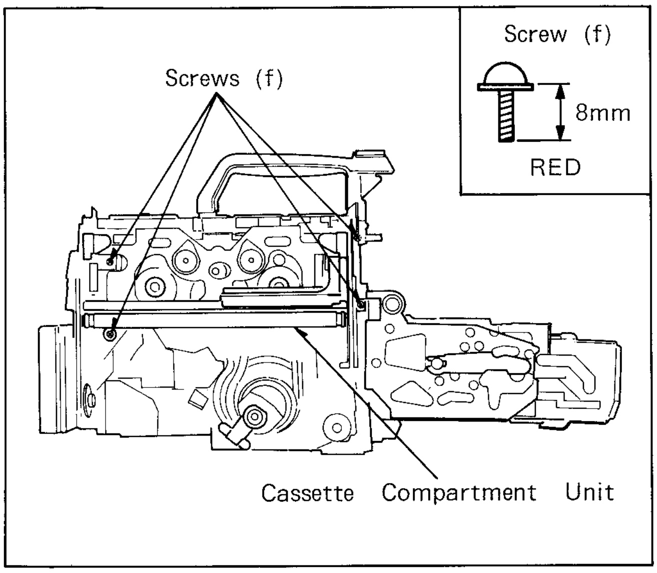

Screw (f)
8mm
RED
Screws (f)
Cassette Compartment Unit

Fig. D13

15. REMOVAL OF CAMERA UNIT

(1) Remove 2 Screws (g).
(2) Disconnect the Connector P3804 and Flexible Connector P3803 on Main C.B.A.

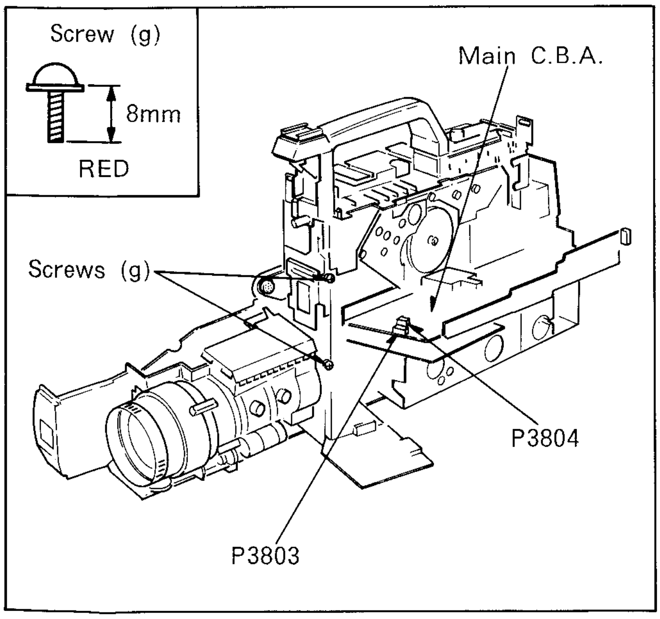

Screw (g)
8mm
RED
Main C.B.A.
Screws (g)
P3804
P3803

Fig. D14

16. REMOVAL OF CAMERA ANGLE

(1) Remove 2 Screws (h) and Screw (i).
(2) Remove the Camera Angle.

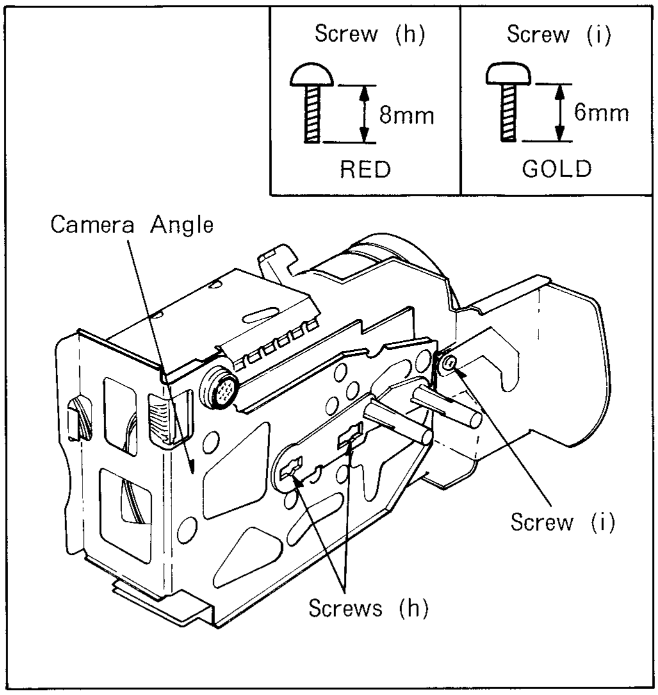

Screw (h)
8mm
RED
Screw (i)
6mm
GOLD
Camera Angle
Screw (i)
Screws (h)

Fig. D15

17. REMOVAL OF AWT CASE UNIT

(1) Remove 2 Screws (j), Screw (k) and Screw (l).
(2) Remove the AWT Case Unit.

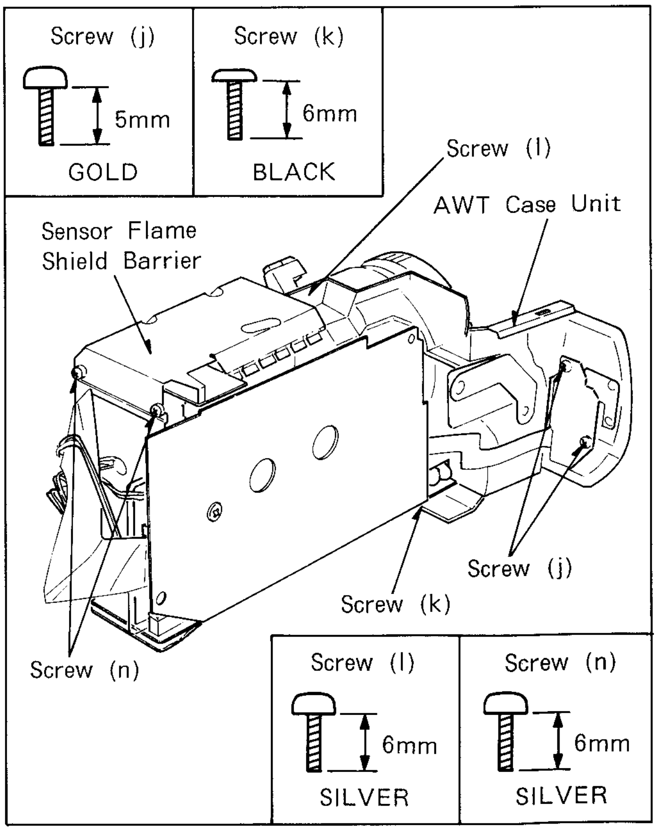

Screw (j)
5mm
GOLD
Screw (k)
6mm
BLACK
Screw (l)
AWT Case Unit
Sensor Flame Shield Barrier
Screw (j)
Screw (k)
Screw (n)
Screw (l)
6mm
SILVER
Screw (n)
6mm
SILVER

Fig. D16

18. REMOVAL OF CAMERA C.B.A.

(1) Remove 5 Screws (m) on Auto Focus and Process C.B.A's.
(2) Disconnect Connectors B301, B305 and FP310 on Process C.B.A.
(3) Remove the Process C.B.A.
(4) Disconnect Connectors P701, P702, P703 and P705 on Auto Focus C.B.A.
(5) Remove the Auto Focus C.B.A.

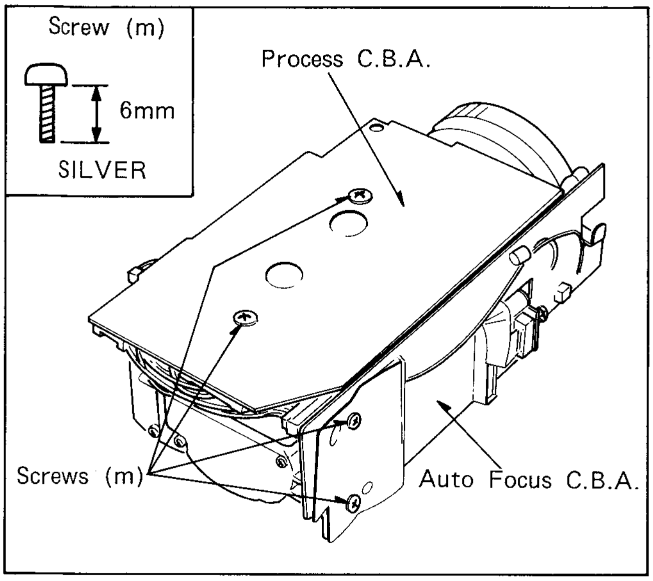

Screw (m)
6mm
SILVER
Process C.B.A.
Screws (m)
Auto Focus C.B.A.

Fig. D17

19. REMOVAL OF SENSOR C.B.A.

(1) Remove 2 Screws (n) shown in Fig. D16 and then remove the Sensor Flame Shield Barrier.
(2) Remove 2 Screws (o).
(3) Lift the Sensor C.B.A. up slightly and then disconnect the Flexible Wire FP201 on Sensor C.B.A.

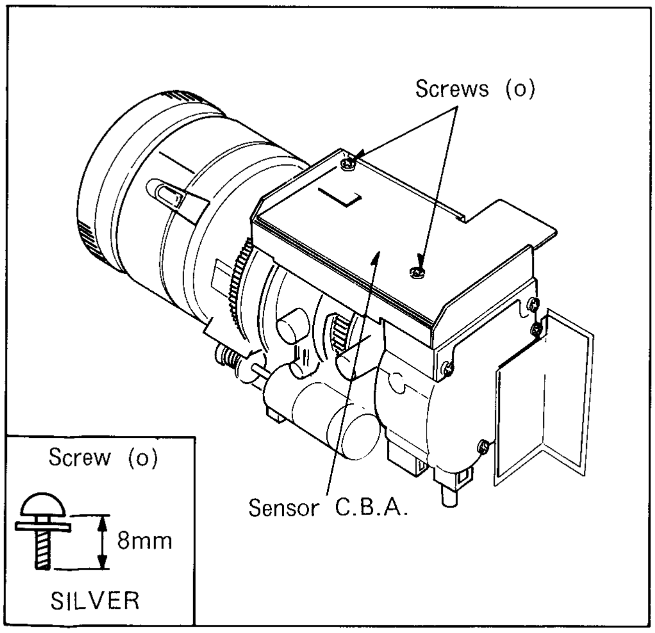

Screws (o)
Screw (o)
8mm
SILVER
Sensor C.B.A.

Fig. D18

20. REMOVAL OF CCD UNIT

(1) Remove 3 Screws (p) and Screw (g). And Then remove the Sensor C.B.A. Flame.
(2) Remove 2 Screws (r) and then remove the Sensor Flame.

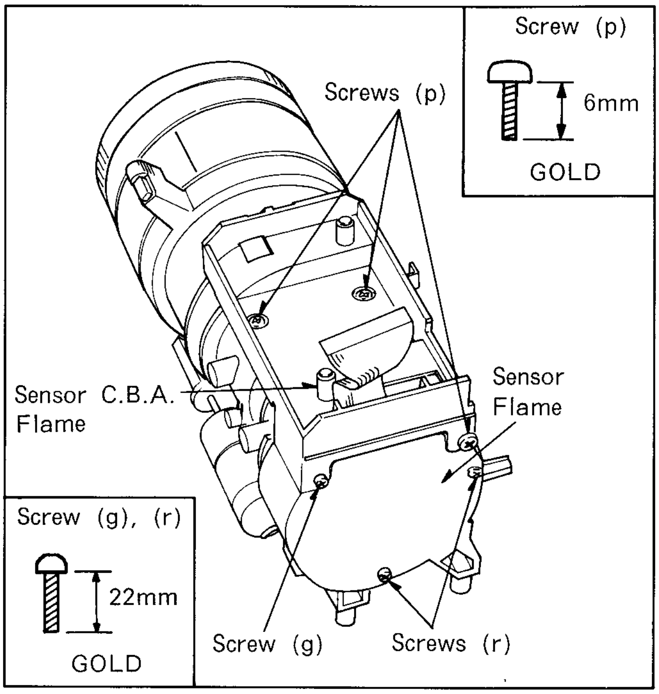

Screw (p)
6mm
GOLD
Screws (p)
Sensor C.B.A. Flame
Sensor Flame
Screw (g), (r)
22mm
GOLD
Screw (g)
Screws (r)

Fig. D19

(3) Remove 2 Screws (s) and then remove the CCD Unit.

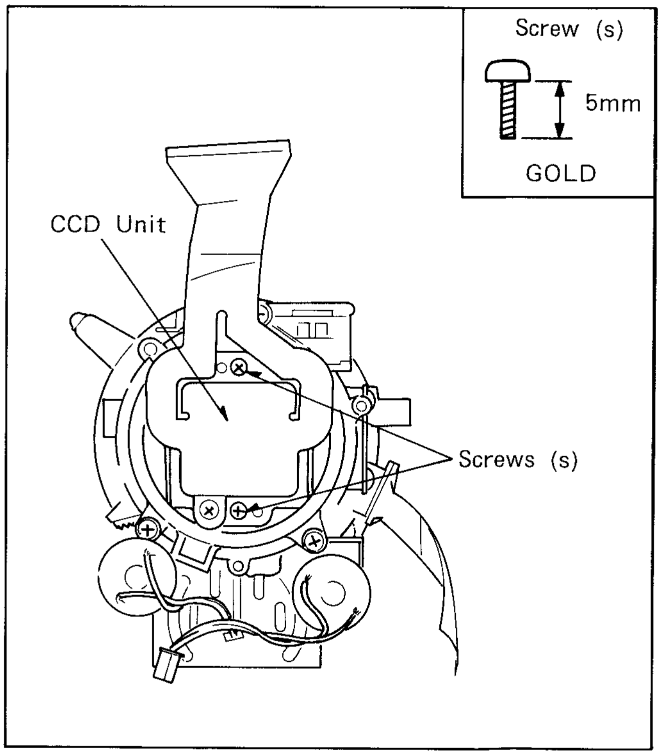

Screw (s)
5mm
GOLD
CCD Unit
Screws (s)

Fig. D20

21. REMOVAL OF ACTUATOR UNIT

(1) Remove 3 Screw (t) and then remove the Actuator Unit.

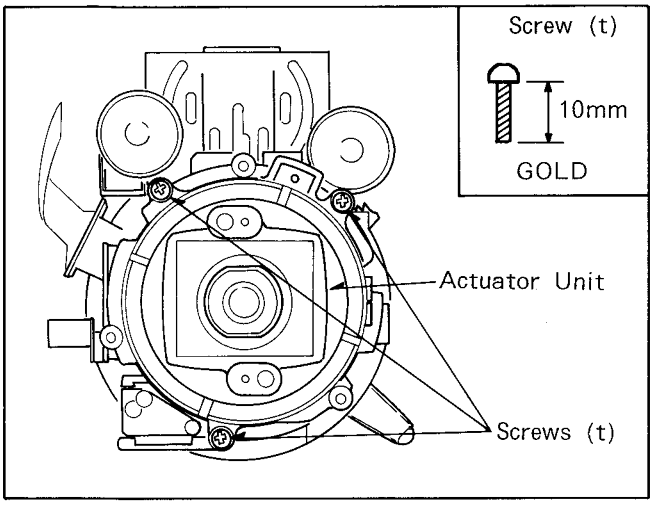

Screw (t)
10mm
GOLD
Actuator Unit
Screws (t)

Fig. D21

22. DISASSEMBLY OF E.V.F. UNIT

(1) Remove 3 Screws (u) on the bottom of the E.V.F. Unit and then remove the Bottom Case.
(2) Remove CRT Top Case from CRT Bottom Case shown in Fig. D22.

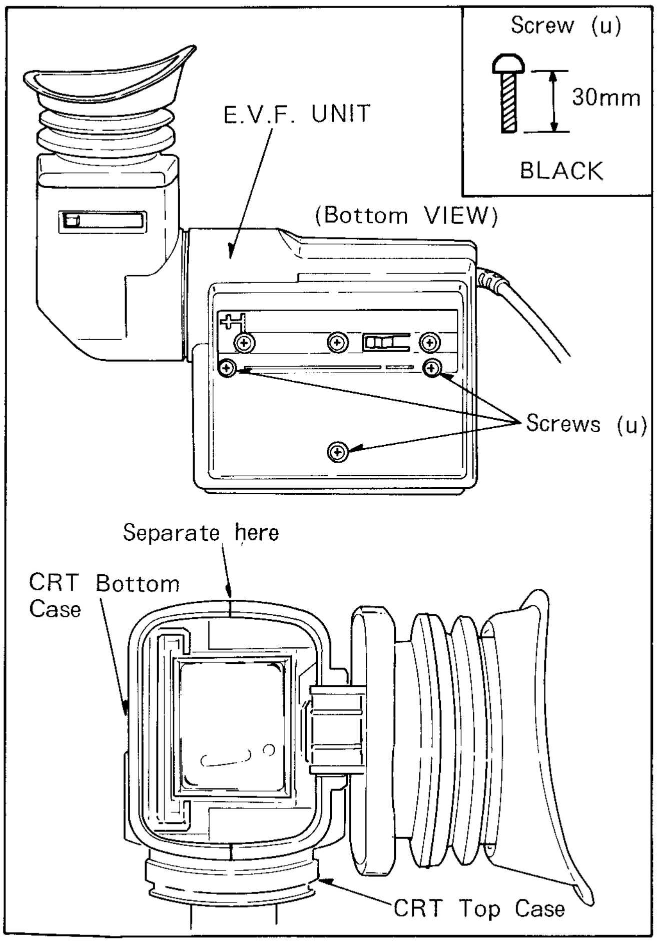

Screw (u)
30mm
BLACK
E.V.F. UNIT
(Bottom VIEW)
Screws (u)
Separate here
CRT Bottom Case
CRT Top Case

Fig. D22

(3) Lift the CRT Assembly up shown in Fig. D23.

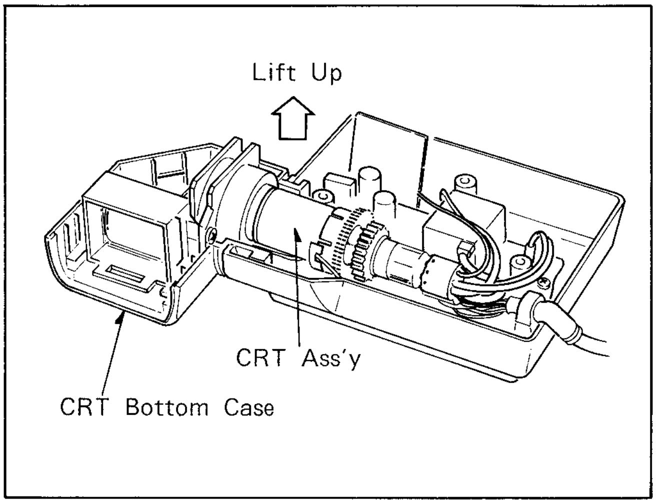

Lift Up
CRT Ass'y
CRT Bottom Case

Fig. D23

(4) Rotate Nut (v) and then pull DY Assembly in the direction shown in Fig. D24 to remove it. Then the CRT can be replaced.
(5) For re-installation, reverse the above steps.

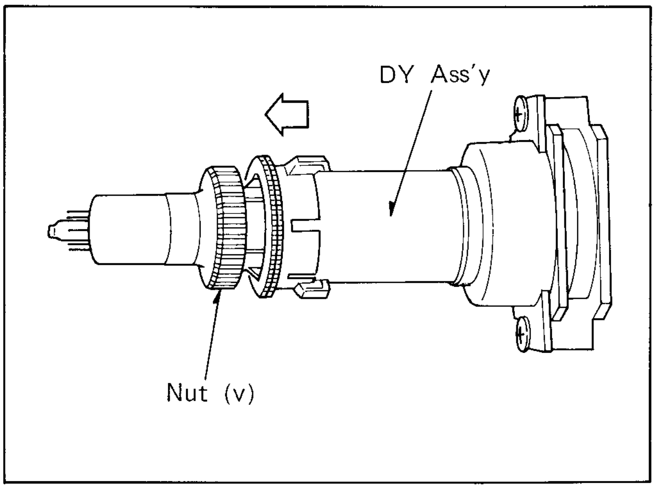

DY Ass'y
Nut (v)

Fig. D24

2-2. REPLACEMENT PROCEDURES

2-2-1. REPLACEMENT OF CCD UNIT

(1) After removing of the CCD Unit install the new CCD Unit.
(2) Assemble the unit subject to the reverse steps of disassembly procedures.

NOTE :
(1) Do not touch the sureface of CCD Unit.
(2) Confirm the Whole adjustment procedures for Camera Section after replacing this CCD Unit.

2-2-2. REPLACEMENT OF ZOOM MOTOR UNIT

(1) Remove the Screw (A) and then remove the Zoom Motor Unit.
(2) Install the new Zoom Motor Unit.
Prior to this replacement, no dust around the Zoom Motor, especially around the gear unit should be confirmed.

2-2-3. REPLACEMENT OF FOCUS MOTOR UNIT

(1) Remove the Screw (B) and then remove the Focus Motor Unit.
(2) Install the new Focus Motor Unit.
Prior to this replacement, no dust around the Focus Motor Unit, especially around the gear should be confirmed.
(3) After this replacement, all the correct adjustments for all parts of auto-focus should be confirmed.

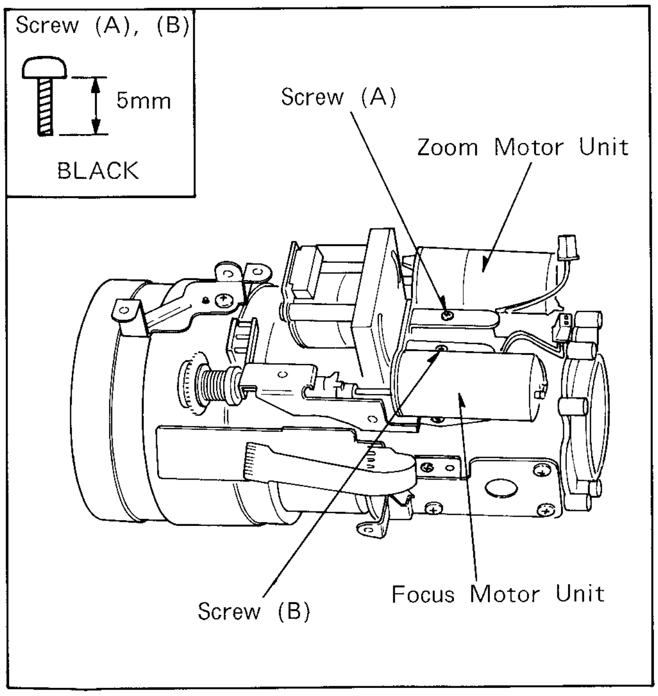

Screw (A), (B)
5mm
BLACK
Screw (A)
Zoom Motor Unit
Screw (B)
Focus Motor Unit

Fig. R1

2-2-4. REPLACEMENT OF ROTARY TRANSFORMER

[REINSTALLATION OF ROTARY TRANSFORMER (R) UNIT]

(1) Reistall the Rotary Transformer (R) Unit carefully so that the white portion of Upper Cylinder Unit is properly aligned with white portion of Rotary Transformer (R).
(2) Tighten the 2 screws (C) and solder 8 Lead Pins (D).

[REINSTALLATION OF UPPER ROTARY TRANSFORMER (S) UNIT]

(1) Befor reinstalling a Upper Rotary Transformer (S) Unit, clean the surface of Rotary transformer (R) and Rotary Transformer (S) with a soft cloth.
(2) Place the Spacer (VMX1340) on Rotary Transformer (R). Reinstall the Upper Rotary Transformer (S) Unit so that insert the shaft (VMS3504) to center of Rotary transformer (S) surely through the center of Upper Rotary transformer (R).

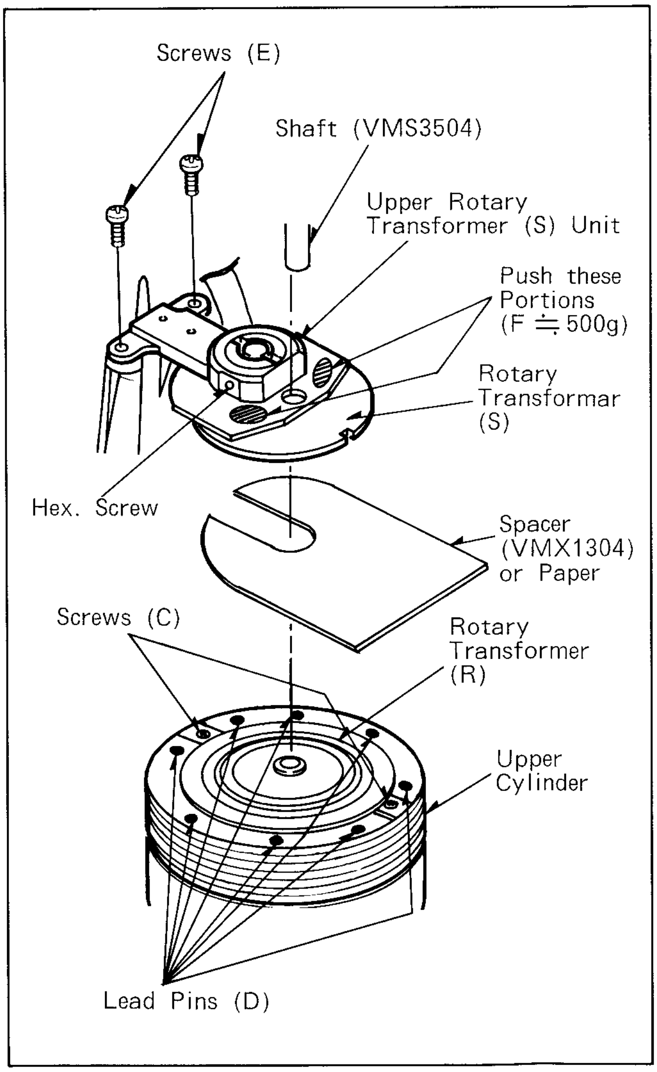

Screws (E)
Shaft (VMS3504)
Upper Rotary Transformer (S) Unit
Push these Portions (F ≒ 500g)
Rotary Transformar (S)
Hex. Screw
Spacer (VMX1304) or Paper
Screws (C)
Rotary Transformer (R)
Upper Cylinder
Lead Pins (D)

Fig. R2

(3) Tighten the 2 screws (E).
(4) Loosen the Hex. Screw (1.2mm)
(5) Push the Upper Rotary Transformer (S) C.B. (F=500g) and then remove the Shaft and tighten the Hex, Screw.
(6) Remove the spacer.

[SIMPLIFIED ADJUSTMENT OF UPPER ROTARY TRANSFORMER (S) UNIT]

(1) Clean the surface of the Rotary Transformer (R) and (S) with a soft cloth before reinstall a Upper Rotary Transformer (S) Unit.
(2) Place a piece of paper on Rotary Transformer (R) which has the same thickness as an ordinary page of Service Manual (not cover page but the other thinner pages) cutting as follows. (The specification of this gap is between 70um ~ 100um)
(3) Install the Rotary Transformer (S) unit so that the center portion comes to the center of Upper Cylinder Motor.
(4) Tighten the 2 Screws (E).
(5) Loosen the Hex. screw.
(6) Push the screened portions of the Rotary Transformer (S) (approx. 500g) and then tighten the Hex. screw with Hex wrench.
(7) Remove the paper which is used as spacer.
(8) Confirm that the Upper Cylinder can rotate smoothly.

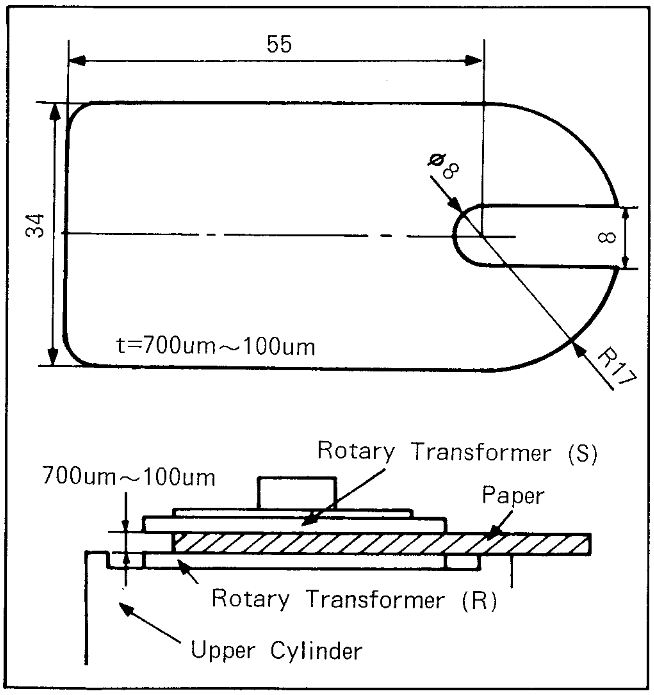


Fig. R3

[CONFORMATION OF REPLACEMENT]

(1) Confirm the rotarion of Upper Cylinder Unit. (Upper Cylinder Unit rotate smoothly.)
(2) Insert the Spacer to gap of Rotaly Trans. (It must be smoothly also gap must not be too wide.)
(3) Confirm the self-recording and Playback picture.
(Play back picture must not noisy)
(4) If condition is no good, review the item No.6 Reinstllation of Upper Rotary Transformer (S) Unit.
(5) After confirmation, perform "TAPE INTERCHANGEABILITY ADJUSTMENT".

2-2-5. REPLACEMENT OF CAPSTAN MOTOR UNIT

* Equipment required:
Reel Table Height Gauge (VFK0190)
* Specification...0.5+-0.05mm

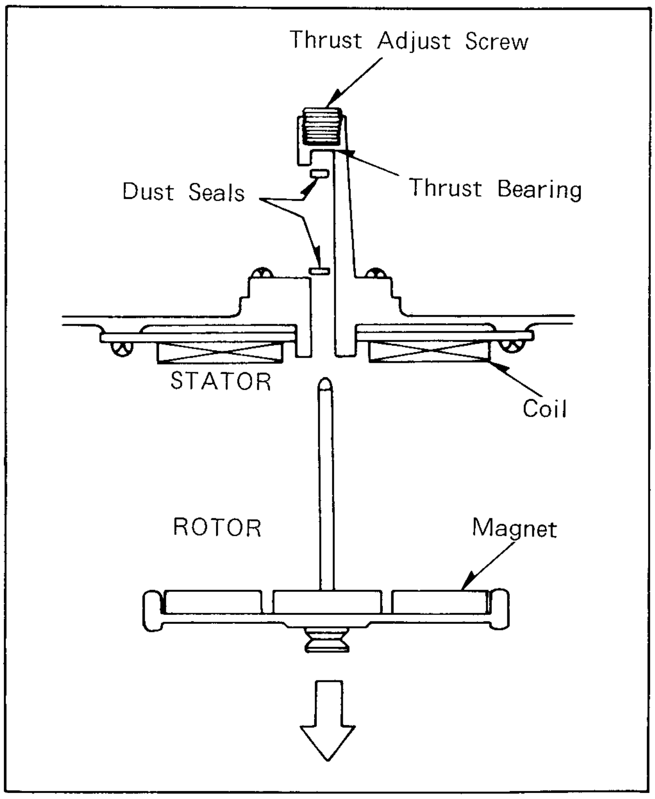


Fig. R4

(1) Remove the 2 screws and take belt cover off. After that remove the capstan belt.
(2) Tighten the Thrust Adjust Screw fully and pull the capstan rotor.

Note :

In this time pay attention not to lose two pieces of Dust Seal.

(3) Replace the new rotor with two pieces of Dust Seal.

Note :

(1) Pay attention to the replaced new rotor not to shock because of magnet absorbtion.
So hold the rotor firmly and replace it carefully.
(2) In this replacement, do not touch the Capstan shaft with any hard material like drivers or tweezers.

(4) After replacement, wipe off the Capstan shaft to remove oil, grease or dust.
(5) Unscrew Thrust Adjust Screw till the rotor is just touching to the stator.
(6) Turn this mechanism upside down and place the Reel Table Height Gauge so that the gauge fits to the chassis correctly, and read the height.
(7) Adjust the Thrust Adjust Screw so that the height difference just meets in the specification (0.5+–0.005mm) reading the height from the gauge.

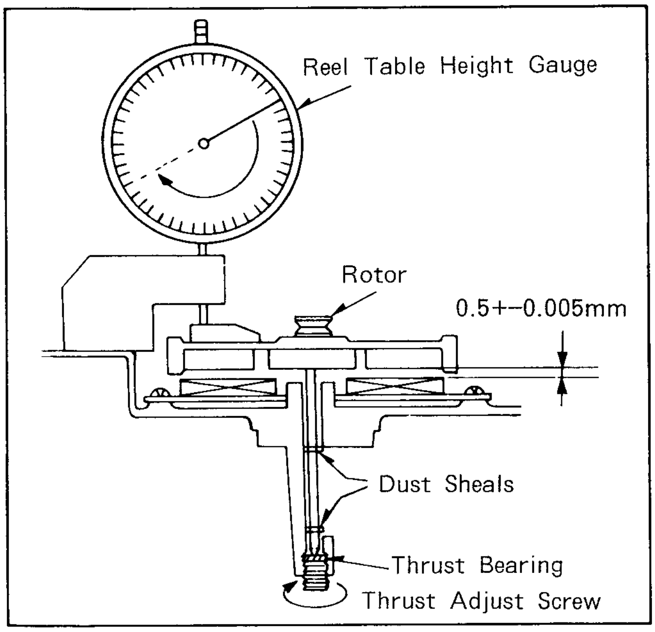

Reel Table Height Gauge
Rotor
0.5+–0.005mm
Dust Sheals
Thrust Bearing
Thrust Adjust Screw

Fig. R5

Note:
If the Thrust Adjust Screw is fully opened, you have to pay attention not to lose Thrust Bearing.
When it is fixed, confirm that the direction of Thrust Bearing is correct as shown below.

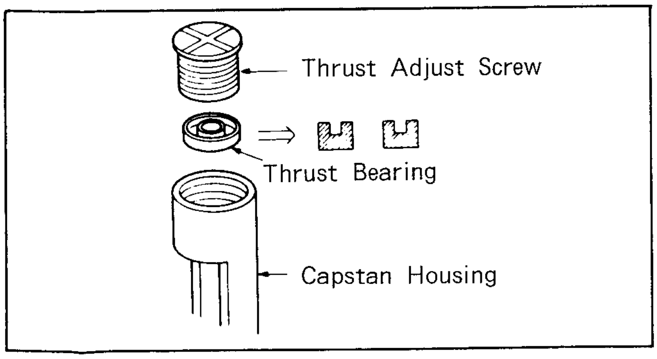

Thrust Adjust Screw
Thrust Bearing
Capstan Housing

Fig. R6

2-2-6. REPLACEMENT OF TENSION BAND

(1) Remove the cassette compartment.
(2) Remove a retaining ring and take out a Rew Arm (A) Unit.
(3) Remove a retaining ring and a snap washer and take out a tension Band Unit.

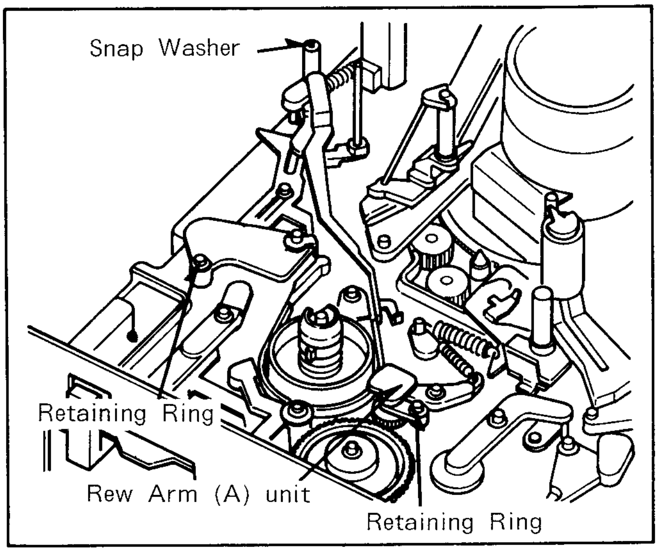

Snap Washer
Retaining Ring
Rew Arm (A) unit
Retaining Ring

Fig. R8

(4) Remove a Tension Band from Band Release Arm and Tension Arm Unit.

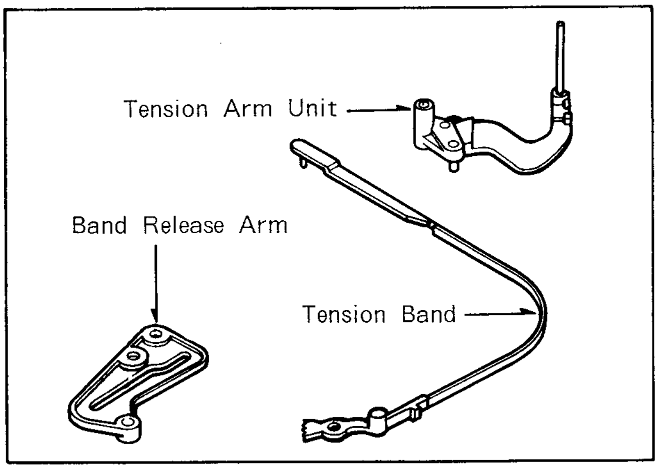
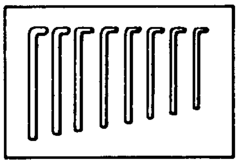
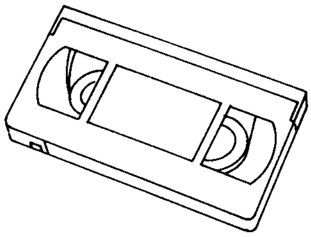
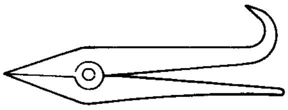
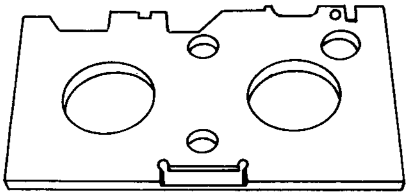
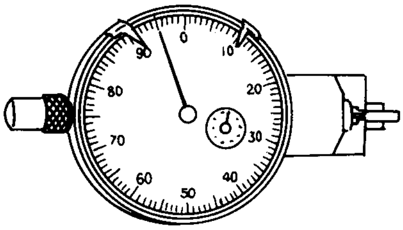
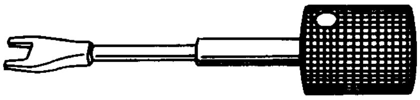
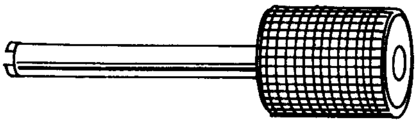
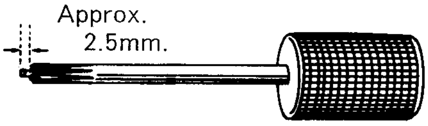
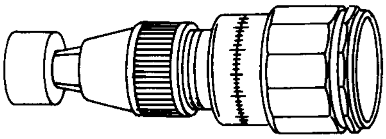
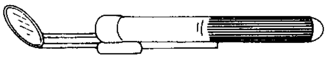
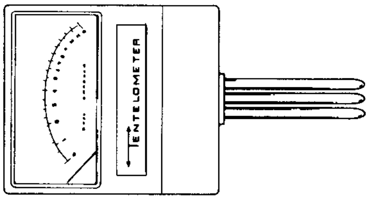
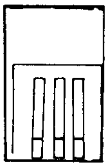
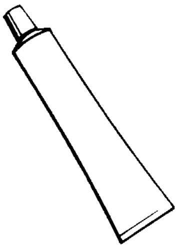

Tension Arm Unit
Band Release Arm
Tension Band

Fig. R9

(5) Replace a new Tension Band by Proceeding reverse steps shown above.

2-3. MECHANICAL ADJUSTMENT PROCEDURES

1. SERVICING FIXTURES & TOOLS

VFK0326 Hex Wrench Set (0.7, 0.9, 1.2, 1.5, 1.6, 2, 2.4, 3mm) 	VFJ8125H3F VHS Alignment Tape 	VFK0335 Retaining Ring Remover (3mm/4mm) 
VFK0191 Post Adjustment Plate 	VFK0190 Reel Table Height Gauge 	VFK0328 H−Position Adj. Fixture 
VFK0329 Post Adjustment Screwdriver 	VFK0157 Fine Adjustment Screwdriver  Grind the top portion approximately 2.5mm	VFK0133 Dial Torque Gauge VFK0134 Adaptor for VFK0133 VFK0180 (Plastic Clamper Only)) 
VFK0343 Check Light 	VFK0132 Back Tension Meter (TZ−H7−UM) (Tentelometer, Made in U.S.A.) 	VKF27 Head Cleaning Stick 
MOR265 Morlytone Grease 	High Quality Machine Oil <Purchase Locally> (Reel Shaft, Capstan Shaft etc.) Cleaning Liquid (Freon, TF, Alchol) <Purchase Locally> (Tape Transport Rubber Parts etc.)	

2. PROCEDURES FOR CLEANING OF UPPER CYLINDER UNIT

(1) Position the video head to clean and hold the upper cylinder to keep it from turning while cleaning.
(2) Gently rub the video head in direction of tape travel whith Head Cleaning Stick.
(3) Repeat for the other three video heads.

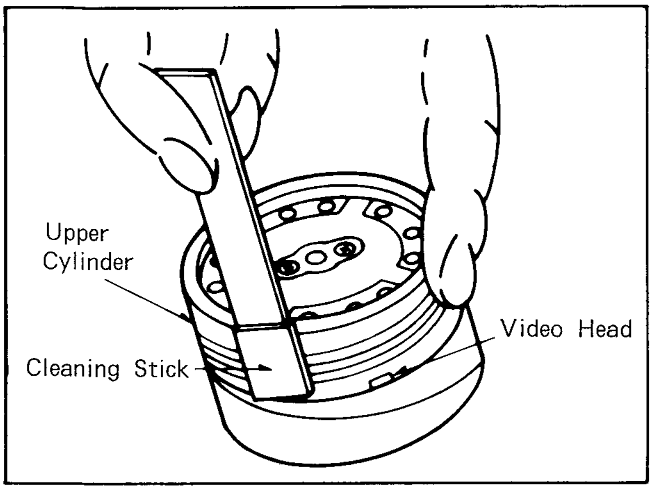


Fig. U1

Note:
(1) Do not rub vertically.
(2) Do not apply any pressure to heads. If contamination is not easily removed,continued gentle wiping will usually remove the substance.

3. TAPE INTERCHANGEABILITY ADJUSTMENT PROCEDURES

3-1. ADJUSTMENT FLOW CHART

This flow chart describes the order of steps for adjusting the tape guide posts and A/C head in order to gain access to the items needing servicing.

AFTER REINSTALLING THE P1 POST, OR IF THE P1 POST HAS BEEN TURNED EXCESSIVELY.

↓

3-2-1. COARSE ADJUSTMENT OF THE TAPE GUIDE POST HEIGHTS.

↓ * **Note:** Adjust the tape guide post P1 only.

3-2-2. CONFIRMATION OF THE TAPE TRANSPORT.

↓

3-2-5. CONFIRMATION OF THE ENVELOPE OUTPUT (LINEARITY).

AFTER REINSTALLING THE UPPER CYLINDER OR CYLINDER UNIT.

↓

3-2-5. CONFIRMATION OF THE ENVELOPE OUTPUT.

↓

3-2-9. FINE ADJUSTMENT OF THE A/C HEAD HORIZONTAL POSITION (X-VALUE).

* **Note:**
Do not change the height of the P1 and P4 posts and position of the A/C head.

AFTER REINSTALLING ALL POSTS OR IF ALL POSTS HAVE BEEN TURNED EXTREMELY.

↓

3-2-1. COARSE ADJUSTMENT OF THE TAPE GUIDE POST HEIGHTS.

↓

3-2-2. CONFIRMATION OF THE TAPE TRANSPORT.

↓

3-2-3. ADJUSTMENT OF THE PULL-OUT POST (P5 POST) HEIGHT.

↓

3-2-4. CONFIRMATION OF THE A/C HEAD TILT.

↓

3-2-5. CONFIRMATION OF THE ENVELOPE OUTPUT.

AFTER REINSTALLING THE A/C HEAD.

↓

3-2-4. CONFIRMATION OF THE A/C HEAD TILT.

↓ * **Note:** Do not change the height of P4 post.

3-2-6. COARSE ADJUSTMENT OF THE A/C HEAD HEIGHT.

↓

3-2-7. ADJUSTMENT OF THE A/C HEAD HEIGHT AND AZIMUTH.

↓

3-2-8. COARSE ADJUSTMENT OF THE A/C HEAD HORIZONTAL POSITION (X-VALUE).

↓

3-2-9. FINE ADJUSTMENT OF THE A/C HEAD HORIZONTAL POSITION (X-VALUE).

AFTER REINSTALLING THE P4 POST, OR IF THE P4 POST HAS BEEN TURNED EXCESSIVELY.

3-2-1. COARSE ADJUSTMENT OF THE TAPE GUIDE POST HEIGHTS.

* **Note:**
Adjust the P4 post only.

3-2-2. CONFIRMATION OF THE TAPE TRANSPORT.

* **Note:**
Adjust the P4 post only.

3-2-4. CONFIRMATION OF THE A/C HEAD TILT.

3-2-5. CONFIRMATION OF THE ENVELOPE OUTPUT (LINEARITY).

AFTER REINSTALLING THE PULL-OUT POST (P5 POST).

3-2-3. ADJUSTMENT OF THE PULL-OUT POST (P5 POST).

* **Note:**
Do not readjust any other post.

3-2. ADJUSTMENT PROCEDURES

3-2-1. COARSE ADJUSTMENT OF THE TAPE GUIDE POST HEIGHT (P1, P2, P3 AND P4)

* Equipment Required:
Post Adjustment Plate..........VFK0191
Reel Table Height Gauge..........VFK0190
Nut Driver (Purchase locally)
Post Adjustment Screwdriver..........VFK0329

1. Remove the cassette compartment from the mechanical chassis.
2. Place the Post Adjustment Plate over the reel tables.
(Fig. M1)
Confirm that the Post Adjustment Plate is firmly seated.

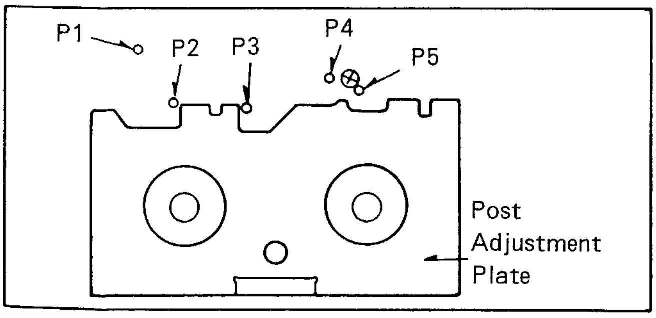


Fig. M1

3. Lower all 4 tape guide posts so that the lower tape guide on each post is below the top surface of the adjustment plate.
Use the post Adjustment screwdriver to lower posts P2 and P3, and the Nut Driver to lower Posts P1, P4 and P5.
4. Place the Reel Table Height Gauge on the Post Adjustment Plate and lower the scraper so that it touches the plate (Fig. M2).

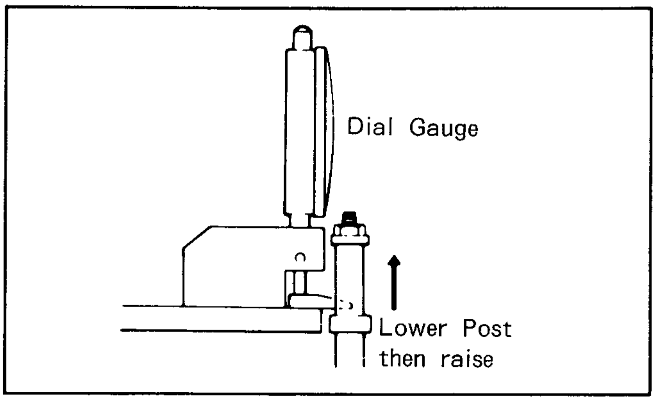


Fig. M2

5. Place the side of the scraper against the each post as shown in Figure M3, set the gauge to zero, then slowly raise the post until the lower tape guide just touches the bottom of the scraper. Use the gauge to determine the exact point at which the lower tape guide touches the scraper. (Fig. M3)

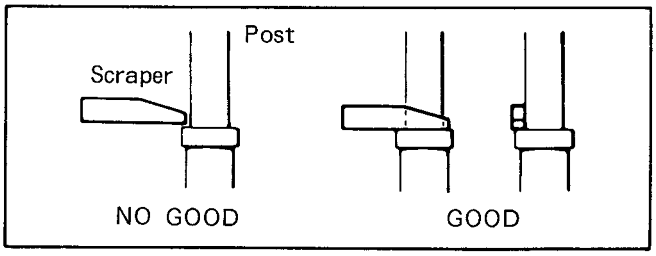


Fig. M3

3-2-2. CONFIRMATION OF THE TAPE TRANSPORT (TAPE GUIDE POSTS)

* Note:

1. The tape guide posts have been precisely adjusted at the factory. Therefore, normally do not change the height of P1, P4 and P5 posts. The following adjustment is required only when replacing the posts.
2. If curling is apparent proceed to the P4 post, wipe dirt from the pressure roller and capatan shaft using a soft cloth impregnated with Freon TF or cleaning liquid.
3. The adjustment of the post height is required only the one which has been replaced.

* Equipment Required
Post Adjustment Screwdriver.....VFK0329
Check Light....................VFK0343
Nut Driver (Purchase locally)

1. To prevent the alignment tape from being damaged, use a normal cassette tape for this procedure.
   Playback the normal cassette tape and confirm that the tape travels without any curling at the edges of all the posts by using the check light. (Fig. M4 and Fig. M5)

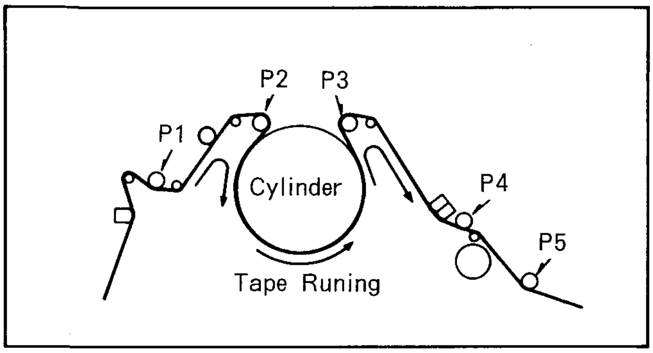


Fig. M4 Tape Transport Posts

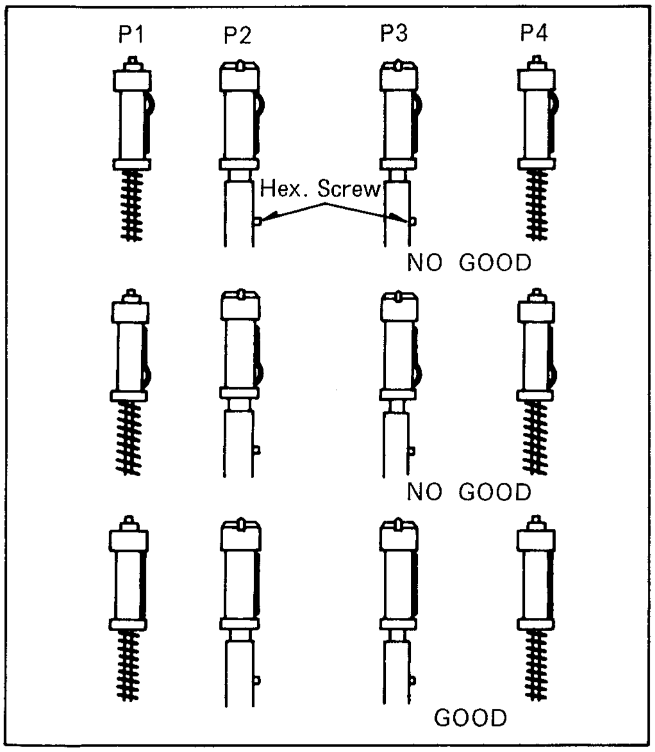


Fig. M5 Tape Guide Posts

2. If curling is apparent, adjust the height of posts by turning the top of post with the post adjustment screwdriver (posts P2 and P3) or the nut–driver (Posts P1 and P4). (Fig. M4 and M5)
3. After adjusting the P4 post, adjustment of the pull–out post (P5) is required.
   (Refer to "ADJUSTMENT OF THE PULL–OUT POST HEIGHT".)
4. If the tape curling cannot be corrected by adjusting the tape guide posts, then adjustment of the A/C head tilt may be needed.

3-2-3. ADJUSTMENT OF THE PULL-OUT POST (P5 POST) HEIGHT

* Notes:
1. This adjustment should be performed only after adjusting tape guide post P4 as the height of the pull–out post is based on the height of post P4.

* Tools and Equipment Required:
Post Adjustment Plate..........VFK0191
Reel Table Height Gauge........VFK0190
Check Light....................VFK0343
Nut Driver (Purchase locally)

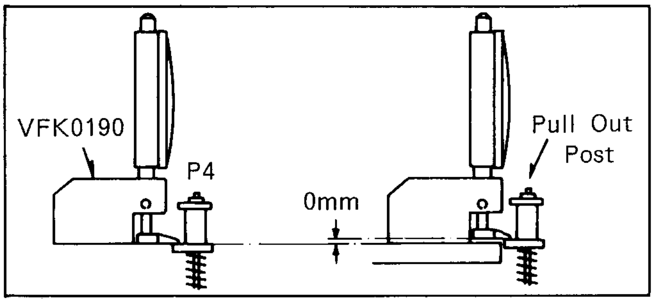


Fig. M6

1. Remove the cassette compartment by unscrewing 4 screws. Unit.
2. Place the Post Adjustment plate over the reel tables.
3. Place the Reel Table Height Gauge on the tape guide post P4, lower the scraper so that it touches the lower edges of P4, then set the gauge to zero ("0"). (Fig. M6)
4. Slightly lower the pull–out post by turning the nut on the post clockwise with the nut driver, and set the side of the scraper against the post as shown in FIg. M7.
5. Slowly turn the nut on the post counterclockwise until the gauge reads 0mm. (Fig. M6)
6. Confirm there is no tape curling at P4 post during reverse mode by using the check light.
   If tape curling occurs, back to step 3.

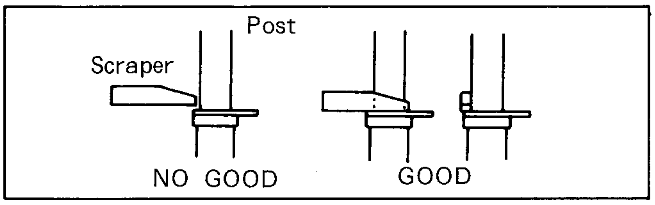


Fig. M7 Post Adjustment

3-2-4. CONFIRMATION OF THE A/C HEAD TILT

* Note:

This procedure should be performed after replacing the A/C head and pressure roller, and adjusting the height of the tape guide post (P4).
(Refer to "COARSE ADJUSTMENT OF THE TAPE GUIDE POST HEIGHTS".)

* Tools and Eqipment Required:
Hex. Wrench Set..........VFK0326
Nut Driver (purchase locally)

1. Play back the begnning portion of NV–E240 blank cassette tape and confirm that the tape runs between lower and upper limiters of the P4 post. If there is waving or frilling in the lower edge or top edge of the tape, correct the tilt of the A/C head by turning the screw located behind the A/C head. (Fig. M8)

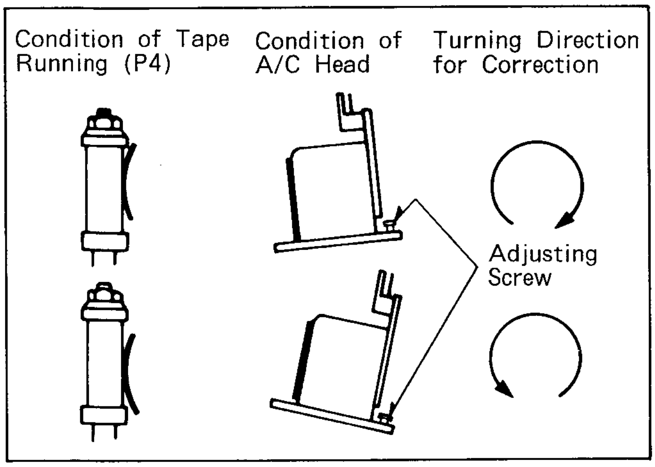

Condition of Tape Running (P4)
Condition of A/C Head
Turning Direction for Correction
Adjusting Screw

Fig. M8

2. If the tape curling cannot be acomplished by adjusting the A/C head tilt, then readjustment of the height of the tape guide post (P4) may be needed.

* Notes:

1. The tape guide post (P4) has been precisely adjusted at the factory. Therefore, normally the tape guide post (P4) readjustment is not required to eliminate the tape curling.
2. After adjusting the A/C head tilt, the A/C head height adjustment is required.

3-2-5. CONFIRMATION OF THE ENVELOPE OUTPUT (LINEARITY)

* Note:

Before playing back the alignment tape, play back a normal cassette tape and confirm correct transport.
(Refer to "CONFIRMATION OF THE TAPE TRANSPORT".)

* Tools and Equipment Required:
Post Adjustment Screwdriver........VFK0329
Alignment Tape..................VFJ8125H3F

1. Connect the scope to the output of the Head Amp (TP3001) on the Main C.B.A. and TP2001 on the same C.B.A. to EX +– Trigger of the scope.
2. Play back the monoscope portion of the alignment tape VFJ8125H3F.
3. Turn the Tracking Control VR and adjust for maximum RF envelope.
4. If the RF envelope appears like example "A" or "B" in Fig. M9, then adjustment of tape guide post (P2 : Entrance) is necessary.
5. Adjust the tape guide post (P2) with the post adjustment screwdriver so that the RF envelope waveform at the entrance portion becomes flat as shown "C" in Fig. M9. (See Fig. M12 also)

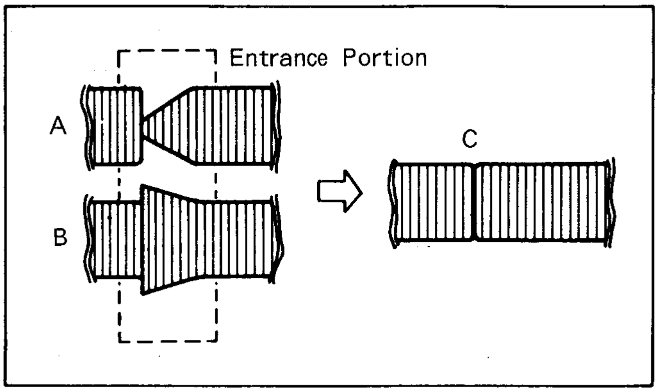


Fig. M9

6. If the RF envelope appears like example "D" or "E" in Fig. M10, then adjustment of the tape guide post (P3 : Exit) is necessary.
7. Adjust the tape guide post (P3) in the same manner as the P2 post so that the exit portion becomes flat as shown in "F" in Fig. M10.

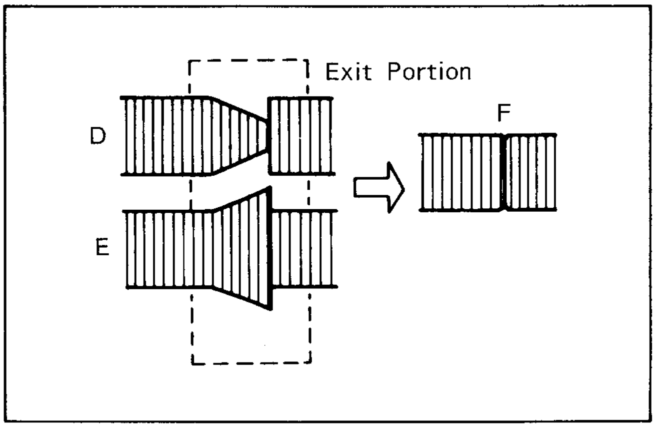


Fig. M10

8. Turn the Tracking VR from end to end.
The variation of RF envelope should be nearly parallel as shown in Figure M11.
9. Turn the Tracking VR and adjust for maximum RF envelope.
If the RF envelope does not meet these specs, V1/V 0.7, V2/V 0.8, then repeat steps 1–9 of item 3–2–5. again. (Fig. M13)

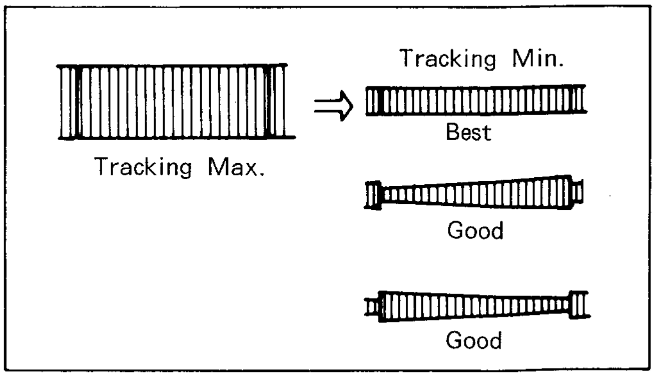


Fig. M11

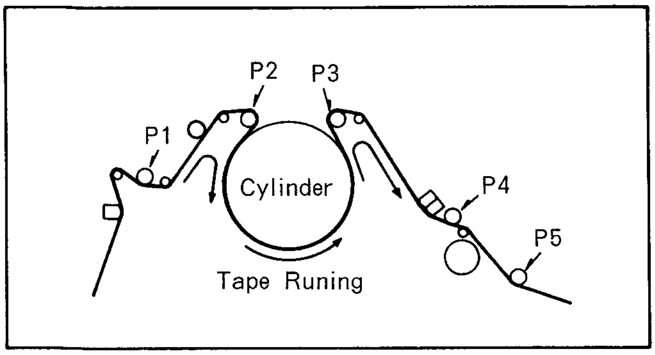


Fig. M12 Loading of post

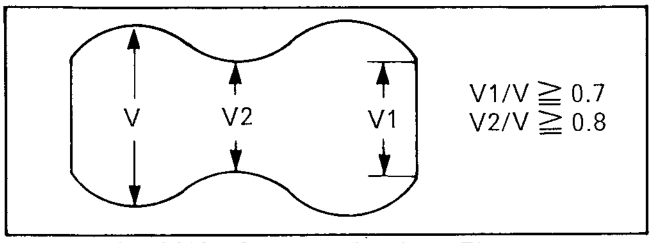


Fig. M13 Spec. of Envelope Figure

10. Turn the Tracking VR from end to end again and then back to the detent (Fix) position.
    At the detent position, the RF envelope waveform should be at maximum. If it is not at maximum then "ADJUSTMENT OF THE A/C HEAD HORIZONTAL POSITION" is necessary.
    (Refer to "FINE ADJUSTMENT OF THE A/C HEAD HORIZONTAL POSITION".)

3-2-6. COARSE ADJUSTMENT OF THE A/C/ HEAD HEIGHT

* Note:

This procedure should be performed only when the A/C Head is replaced.

* Tools and Equipment Required:
Check Light..........VFK0343
Nut Driver (Purchase locally)

(1) Looking at the lower edge of the control head within the tape running, ensure that lower edge of the tape runs along 0.25mm far from lower edge of the control head. (litte bit up position from lower edge of control head.) If it doesn't, slightly turn the nut (A) in either direction to correct clockwise to lower the head and counterclockwise to raise it.

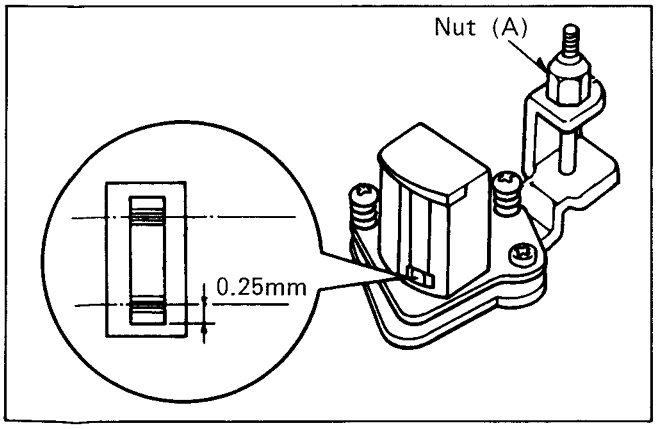


Fig. M14

3-2-7. ADJUSTMENT OF THE A/C HEAD AND AZIMUTH

* Note:

This procedure should be performed only when the A/C Head is replaced and posts hight are readjusted.

* Tools and Equipment Required:
Nut Driver (Purchase locally)
Alignment Tape..........VFJ8125H3F

1. Connect the scope to the audio output. (TP4001)
2. Play back the 2nd portion (Normal Audio 6KHz) of the alignment tape, VFJ8125H3F.
3. Adjust the screw (B) so that the audio output level at TP4001 becomes maximum. (Fig. M15)

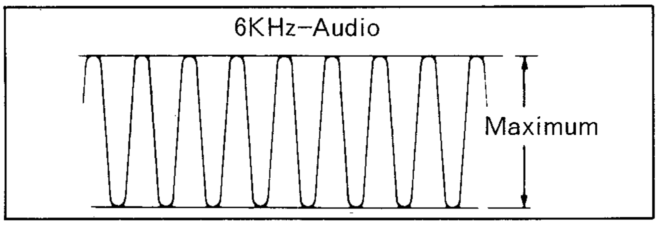


Fig. M15

4. Then adjust the nut (A) so that the audio output level (at TP4001) maximum.

3-2-8. ADJUSTMENT OF A/C HEAD HORIZONTAL POSITION

Note:

This procedure should be performed only when the A/C head is replaced and after performing the tape interchangeability adjustment.

* Tools and Equipment Required:
H. Position Adj. Fixture..........VFK0328
Alignment Tape.................VFJ8125H3F

1. Set the Tracking Control VR to the center detent (fixed) position.
2. Connect the scope CH1 to TP3001 on the Main C.B.A., and TP4001 on the Audio C.B.A. to Ext–trigger the scope.
3. Play back the Monoscope patern of the alignment tape (VFM8125H3F).
4. Adjust the adjust screw so that the RF envelope output level becomes maximum at the detent position (Fig. M16, M17).
5. Turn the Tracking VR from end to end and then back to the detent position.
   Confirm that the RF envelope output level is maximized at the detent position. (Fig. M11)

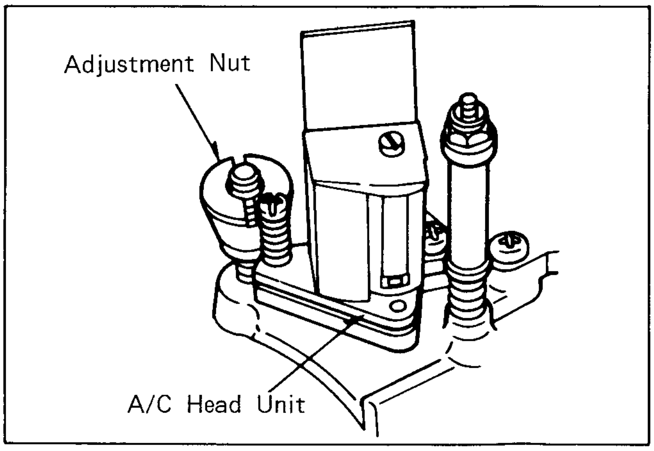


Fig. M16

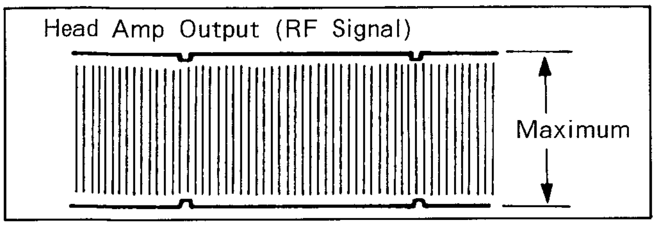


Fig. M17

4. OTHER ADJUSTMENT PROCEDURES

4-1. CONFIRMATION OF BRAKE TORQUE

* Equipment Required:
Dial Torque Gauge..........VFK0133
Adaptor for Gauge..........VFK0134
* Specification:——see spec table (Fig. M19).

(1) Remove the cassette compartment by unscrewing 4 screws.
(2) Attach the adaptor to the torque gauge and place the unit in STOP mode.
(3) Place the torque on the reel table. The weight of gauge should not rest on the reel table.

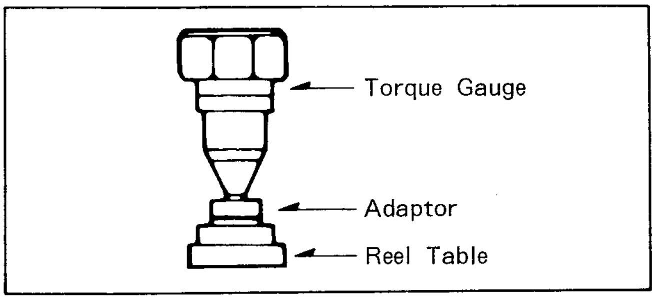
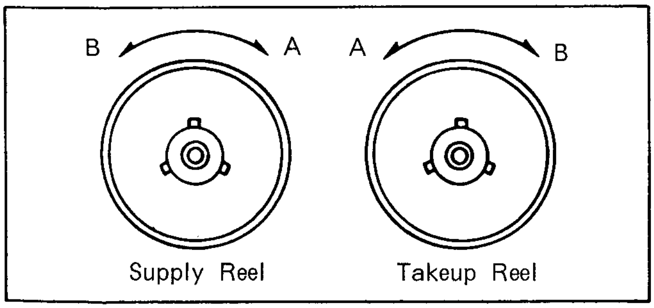

Torque Gauge
Adaptor
Reel Table

Fig. M18

(4) Turn torque gauge in either direction indicated in the Fig. M19, and read the gauge when the brake begins slipping.

Note:

If proper brake torque can not be optained, check the both take-up and supply clutch gear.


B
A
A
B
Supply Reel
Takeup Reel

	A	B
Takeup	28+−8g−cm	28+−8g−cm
Supply	28+−8g−cm	28+−8g−cm

Fig. M19

4-2. TENSION POST POSITION ADJUSTMENT

* Specification : ——————2.4mm~2.9mm

(1) Remove the Cassette Up unit by unscrewing 4 screws. (Refer to the disassembly procedures titled in Removal of the Cassette Up Unit). Place the unit in Play mode by rotating Drive Gear (A) in clockwise shown below.

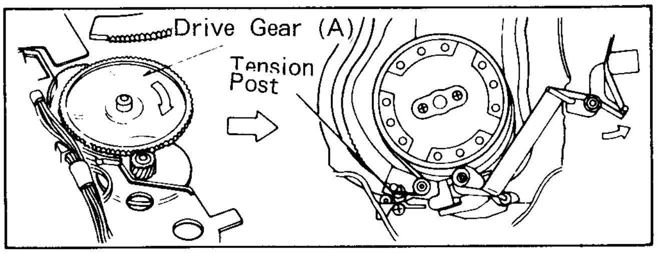

Drive Gear (A)
Tension Post

Fig. M20

Note:

In this case, make sure that the power is not applied.

(2) Loosen the screw (A) a little bit and adjust the Tension Post adjustment plate so that the "Distance (A)" shown below becomes just meet in the specification (2.4m~2.9mm).
(3) Tighten the screw (A) to fix it.

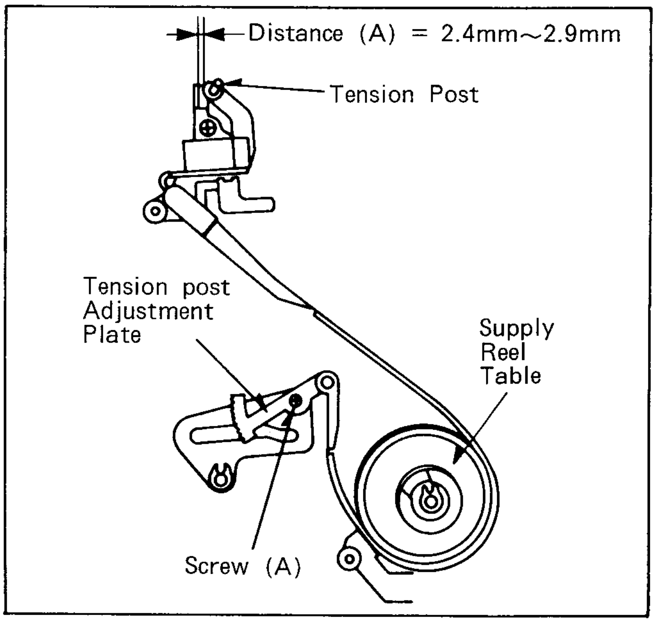

Distance (A) = 2.4mm~2.9mm
Tension Post
Tension post Adjustment Plate
Supply Reel Table
Screw (A)

Fig. M21

4-3. BACK TENSION ADJUSTMENT

* Equipment Required:
Back Tension Meter..........VFK0132
VHS Cassette Tape (120min.)
* Specificcation:——————19~23g

1. Playback the cassette tape from the beginning and wait until the tape movement get the stabilization. (for approx. 10~20 seconds)

2. Insert the Back Tension Meter into the path of a tape, and measure the back tension to be within specification as shown in Fig. M22.

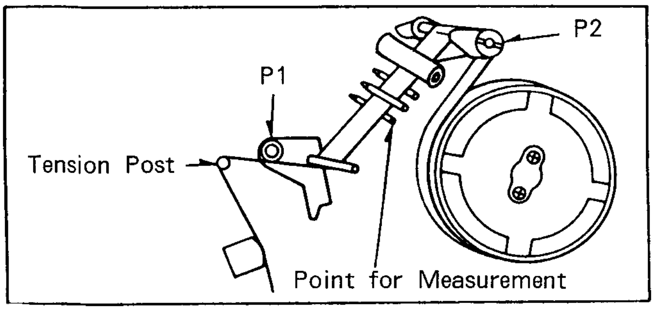


Fig. M22 Measurement of Back Tension

Note:

1. While measuring, make sure that the three probes of the meter are all in good contact with the tape.
2. As the tension meter is very sensitive, we recommend taking 3 separate readings.
3. If it is out of specification, change the spring notch as shown in Fig. M23.

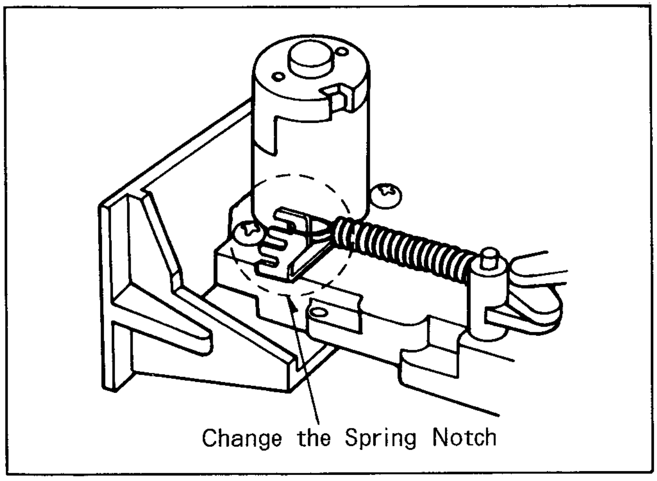


Fig. M23

4-4. REEL TABLES HEIGHT ADJUSTMENT

* Equipment Required:
Post Adjustment Plate..........VFK0191
Reel Table Height Gauge........VFK0190
* Specification————————0~−0.15mm

Note:

Cut−out on Post Adjustment Plate is reference of reel table height and their height is measured based on this refernce.

1. Place the post adjustment plate on the reels, and put the Gauge on the plate. Set the gauge to zero "0" with the foot scraper of the gauge touching the cut−out portion of the plate.

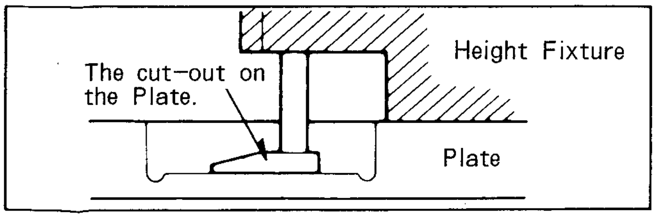


Fig. M24

2. Then measure the height of reel table and confirm the difference just performed in former step as shown below. Do the same way for the other reel table.

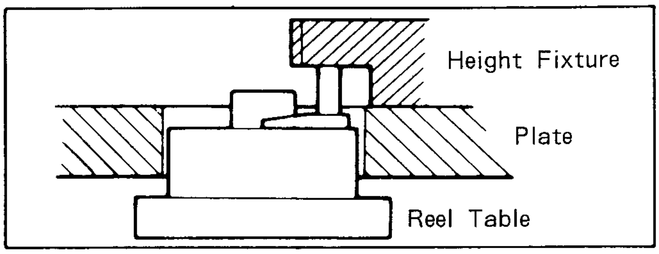


Fig. M25

3. If a height difference in readings between the cut−out portion of plate and reel tables is not 0~−0.15mm (higher or lower), adjust the height of the reel to obtain specified height.
4. For adjustment add or reduce a washer.

4-5. ADJUSTMENT OF FG HEAD GAP

* Specification:————————0.17~0.18mm

(1). Slightly loosen the 2 screws.
(2). Put the paper which is used for cover page of this volume into the gap between F.G.Head and Capstan rotor. (The thickness of the cover page is approx 0.17mm)
(3). After adjustment, tighten 2 screws.

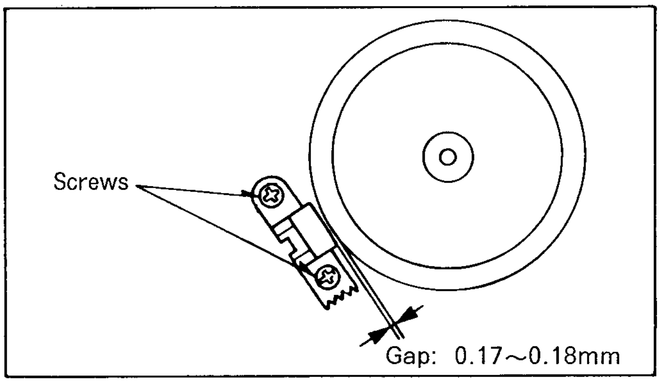


Fig. M26

Note:

Do not touch the surface of rotor and keep any magnetizable material away.

4-6. ASSEMBLY ADJUSTMENT PROCEDURES OF MECHANISM

The mechanism of this model is mostly engaged to the System Control Circuit, through the mode select switch.
Therefore the relation between the mode select switch and the cam gear decides all further mechanical movement of the mechanical parts such as levers, gears, rollers and so on.
If these parts are fixed in properly, the unit will be unloaded or compulsorily stopped.
And it will result being damaged at any mechanical or electrical parts.

4-6-1. ASSEMBLY PROCEDURES OF LOADING RINGS AND LOADING GEARS

(1). Install a Loading-Ring T (1) unit and a Loading Gear (B) so that both triangle marks meet each other as shown below.

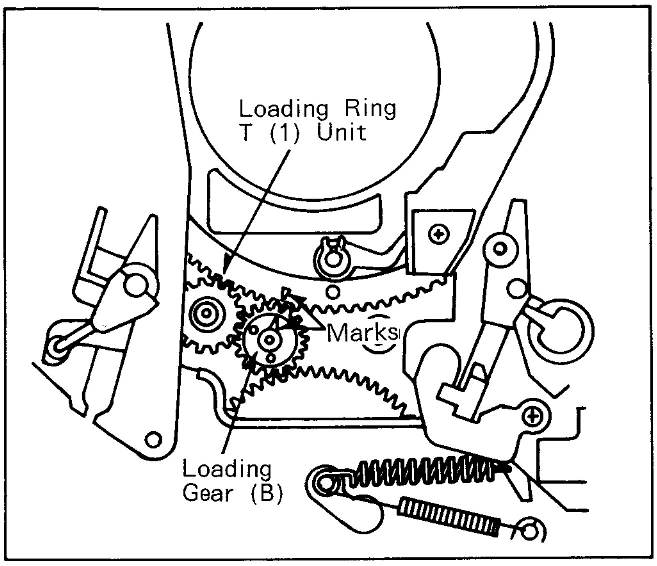

Loading Ring T (1) Unit
Marks
Loading Gear (B)

Fig. M27

(2). Install a Loading Gear (A) and next fix a Loading Ring S (1) Unit so that the holes of Loading-Ring S (1) Unit and T (1) Unit meet each other as shown below.

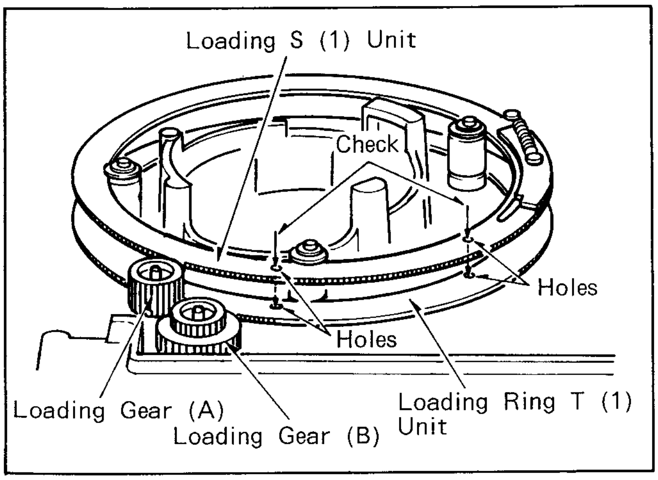

Loading S (1) Unit
Check
Holes
Holes
Loading Gear (A)
Loading Gear (B)
Loading Ring T (1) Unit

Fig. M28

Note:

Pay attention that the washers are remaining under the loading gears or any other parts.

4-6-2. ASSEMBLY PROCEDURES OF TAKE-UP LOADING GUIDE AND TAKE-UP LOADING POSTS UNIT

(1). Install Loading Guide T Unit and Take-up Post Stopper.
In that time, the small projection of a Loading Link T Unit must be inserted into a gap of Loading Guide T Unit.

(2). Fix a Take-up side Loading Post Unit holding the small projection of the Loading Link T Unit and install a T Shaft Holder Unit.

4-6-3. ASSEMBLY PROCEDURES OF SUPPLY LOADING GUIDES AND SUPPLY LOADING POST UNIT

(1). Install 2 Supply Loading Guides screwing 4 screws.

(2). Slide a Supply Loading Post Unit into a gap between the Loading Guide S1 and S2 hooking a Connection Rod to a Connection Tie Unit as shown below.

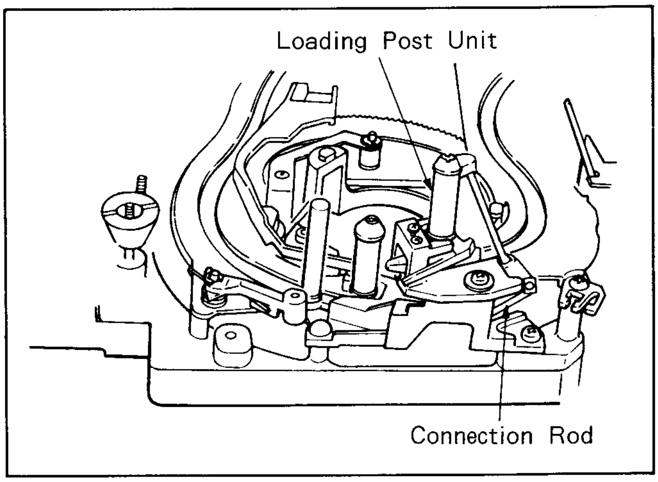

Loading Post Unit
Connection Rod

Fig. M29

(3). Set the Supply Loading Post Unit into unloading position by turning a intermediate pully gear as shown below.

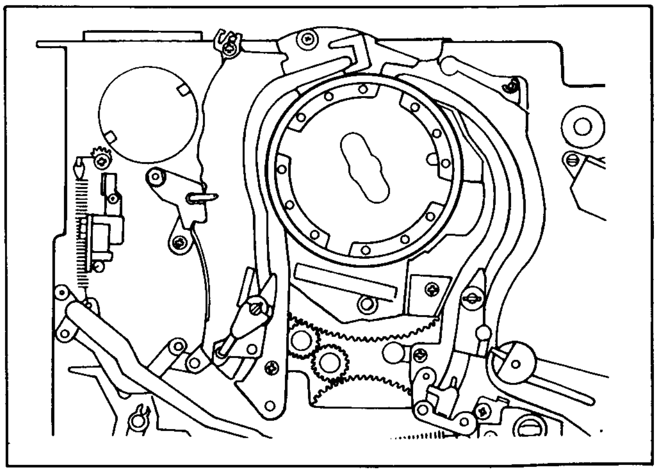


Fig. M30

(4). Install a V Stopper Base and Supply Post Stopper.

4-6-4. ASSEMBLY PROCEDURES OF MAIN ROD.

(1). Place a Main Rod inserting 3 Thrust Washers and then insert 3 washers.
After that, fix them using 2 retaining rings as shown below.

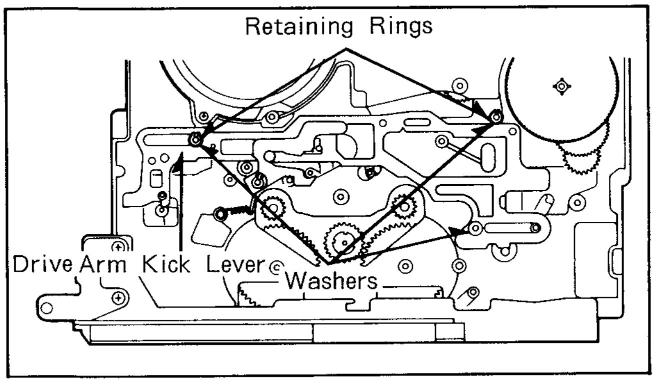


Fig. M31

(2). Install a Drive Arm Kick Lever hooking a Drive Arm Kick Lever Spring and fix it using ring.

4-6-5. ASSEMBLY PROCEDURES OF CAM GEAR AND SECTOR

(1). Make sure that the hole on a Main Rod just should coincide with the hole on chassis as shown below and install a Cam Gear should coincide with he hole between a Cam Gear and the chassis. Then install a retaining ring.

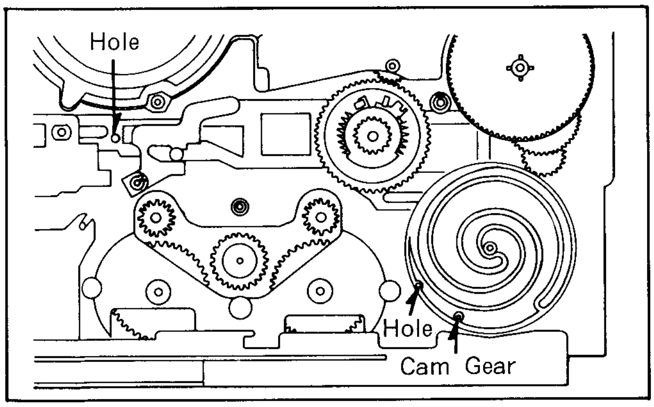


Fig. M32

(2). Install a Loading Gear (C) keeping the relation as shown below.

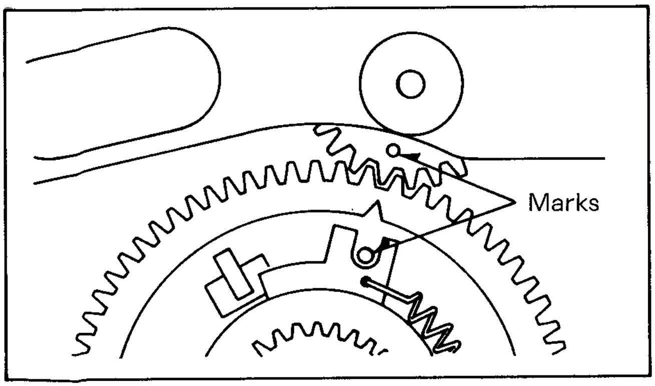


Fig. M33

(3). Install a Sector Gear as shown below.

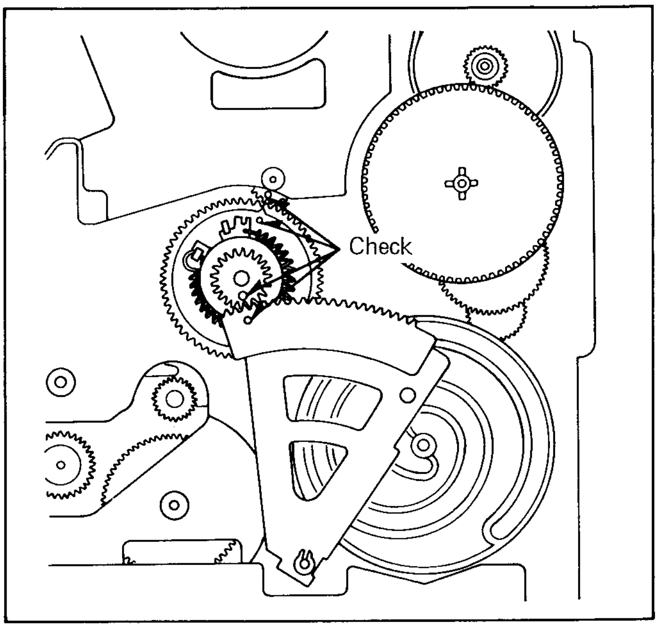


Fig. M34

(4). Fix a SG Limiter by 2 retaining rings.

4-6-6. ASSEMBLY PROCEDURES OF MODE SWITCH

(1). Perform this procedures after confirming the complete setting of mechanical parts.
First of all confirm that the hole on a Main Rod is meeting with a hole on a chassis.

(2). Move the moving contact of a Mode Select Switch into Stop position as shown below.

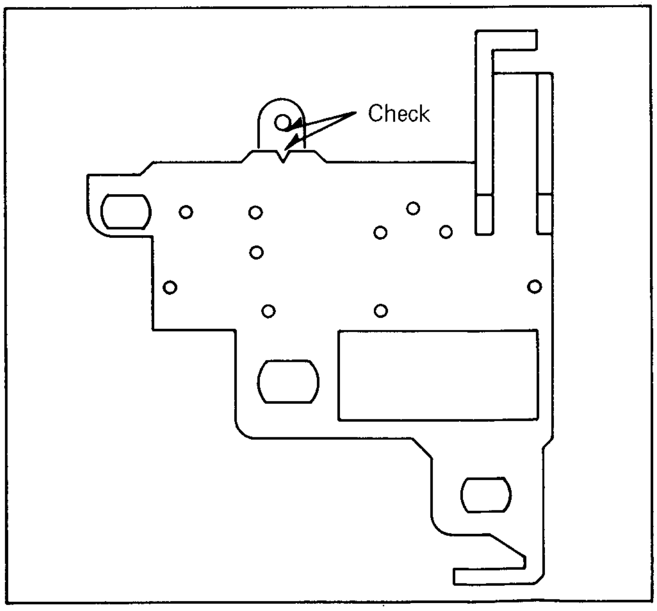


Fig. M35

(3). Install the Mode Select Switch keeping these relation written in item (1) and (2) by screwing 2 screw.

2-4. ELECTRICAL ADJUSTMENT PROCEDURES

2-4-1. ELECTRICAL ADJUSTMENT FOR CAMERA SECTION

TEST EQUIPMENT AND TOOLS

The following equipments are required for adjustment of the VHS Movie NV−M10.

(1) Dual trace Oscilloscope
  *Voltage range : 0.05 ~ 50V/div.
  *probe : 10:1 or 1:1
(2) V.T.V.M. (Vacuum Tube Volt Meter)
  D.V.M. (Digital Volt Meter)
  *Voltage range : 0.01 ~ 50V
(3) Frequency Counter
  *Frequency range : 0 ~ 10MHz
(4) Vectorscope
(5) Light Meter
(6) Tripod
(7) TV Monitor
(8) Lighting
  *3200 degrees kelvin / 1400lux on the chart surface.
(9) Reflection Charts
  *Logalithmic Gray Scale Chart (YWV2310RB99)
  *Colour Chip Chart (YWV2100RB98)
  *Ball Chart / J−Chart (VFK0580)
  *B/W / G/W / Hunting Chart (VFK0546)
  *White Chart (White paper)
(10) Plastic tip driver
(11) Camera Unit Holder (VFK0382)
(12) Camera Holder Arm (VFK0431)
(13) Colour temperature conversion filters
  *C12 filter (VFK0374)
  *C2 filter (VFK0375)
  *C8 filter (VFK0547)
(14) Camera Extension Cables
  *14Pin Cable (VFK0430)
  *18Pin Cable (VFK0380) 2pcs

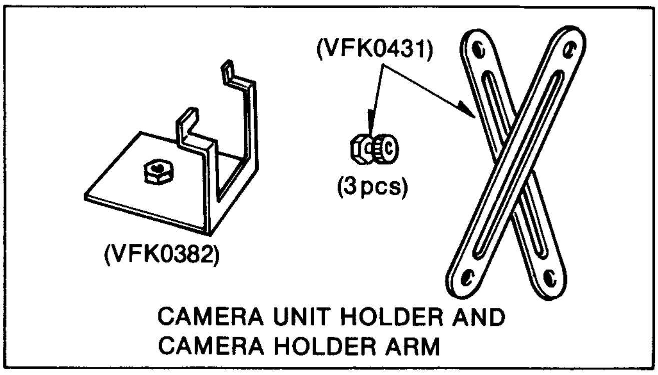

(VFK0431)
(3pcs)
(VFK0382)
CAMERA UNIT HOLDER AND
CAMERA HOLDER ARM

Fig. C1

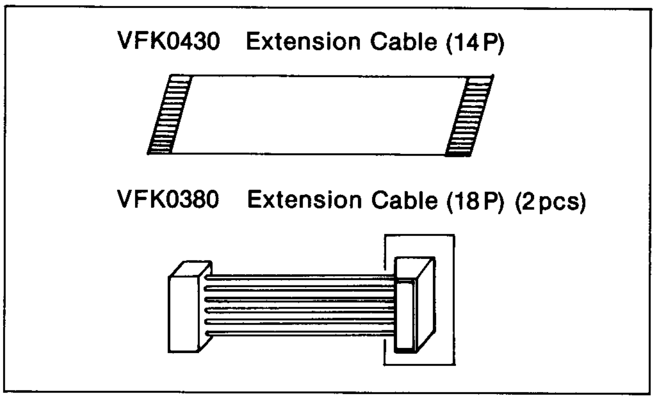

VFK0430 Extension Cable (14P)
VFK0380 Extension Cable (18P) (2pcs)

Fig. C2

PREPARATION
(1) Remove the casing panels.
(2) Mount the unit to tripod directly.
(3) White balance switch to "INDOOR"
(4) Auto focus selector to "OFF"
(5) High speed shutter to "OFF"
(6) Iris VR to centre click portion.

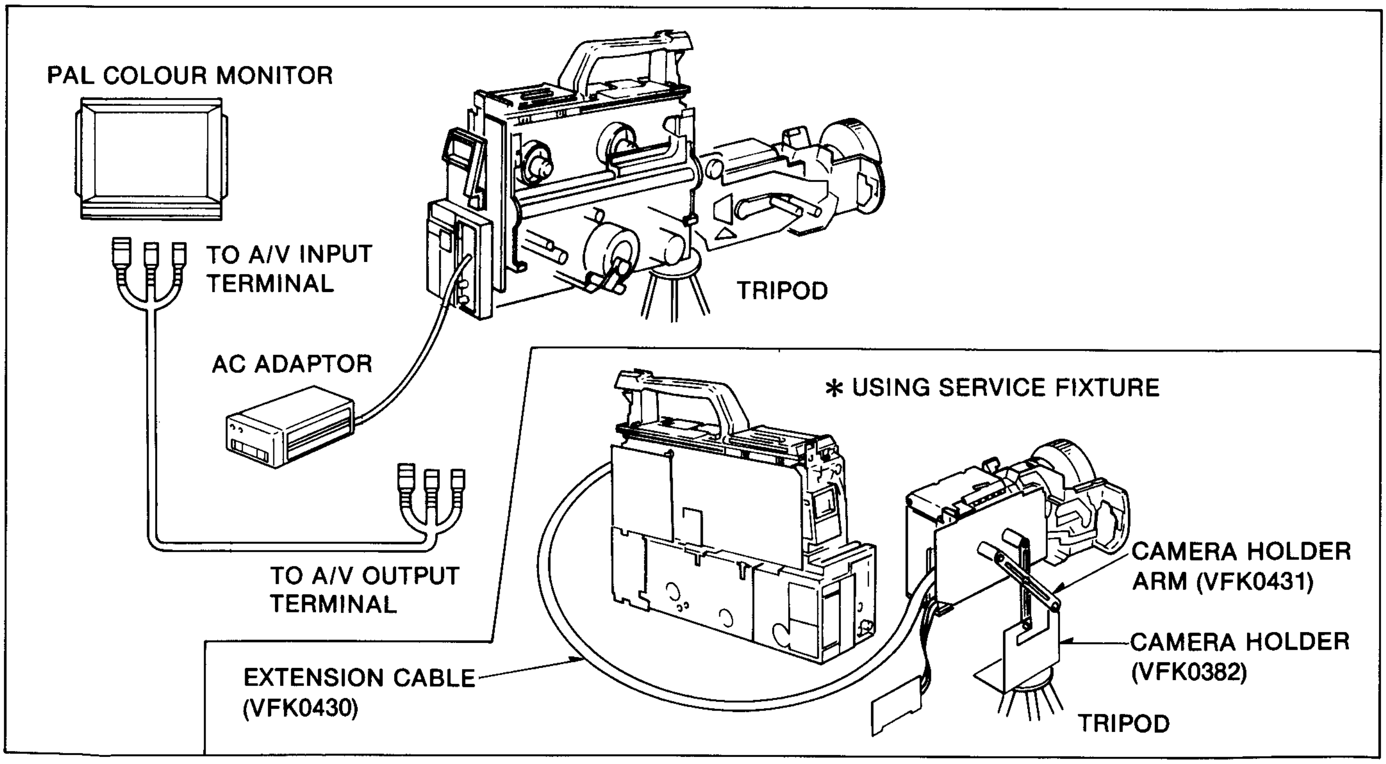

PAL COLOUR MONITOR
TO A/V INPUT TERMINAL
TRIPOD
AC ADAPTOR
TO A/V OUTPUT TERMINAL
* USING SERVICE FIXTURE
CAMERA HOLDER ARM (VFK0431)
CAMERA HOLDER (VFK0382)
EXTENSION CABLE (VFK0430)
TRIPOD

Fig. C3

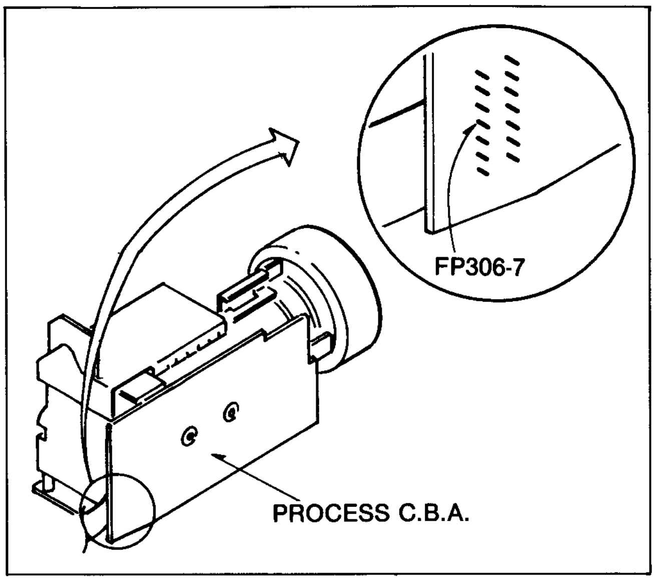
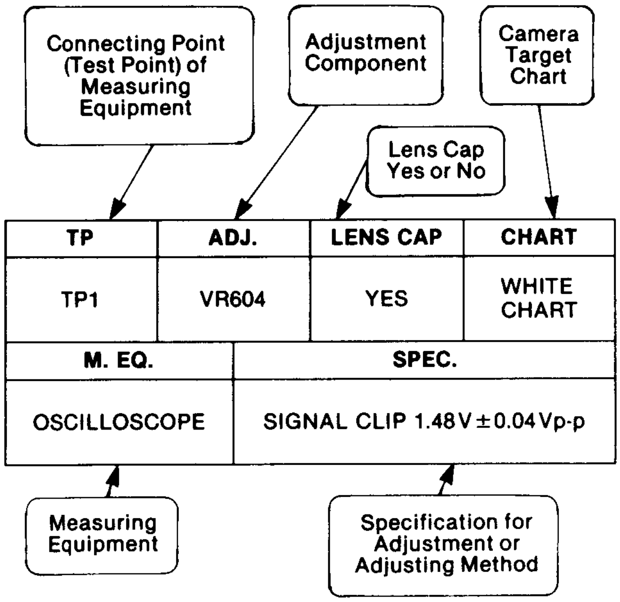

FP306-7
PROCESS C.B.A.

Fig. C4

HOW TO READ THE ADJUSTMENT PROCEDURES


Connecting Point (Test Point) of Measuring Equipment
Adjustment Component
Camera Target Chart
Lens Cap Yes or No
Measuring Equipment
Specification for Adjustment or Adjusting Method

TP	ADJ.	LENS CAP	CHART
TP1	VR604	YES	WHITE CHART

M. EQ.	SPEC.
OSCILLOSCOPE	SIGNAL CLIP 1.48V±0.04Vp-p

Note: If ☒ appears in any block, this means it is not used or not important.

Fig. C5

CCD DRIVE SECTION

1. BACK FOCUS ADJUSTMENT
2. PLL FREQUENCY ADJUSTMENT
3. V-SUB ADJUSTMENT
4. CCD OUTPUT ADJUSTMENT

PROCESS SECTION

5. AGC ADJUSTMENT
6. Y 1H/2H DELAY LEVEL ADJUSTMENT
7. YH LEVEL ADJUSTMENT
8. CHROMA 1H/2H DELAY LEVEL ADJUSTMENT
9. BURST PHASE ADJUSTMENT
10. PEDESTAL LEVEL ADJUSTMENT
11. IRIS VR ADJUSTMENT
12. ALC ADJUSTMENT
13. CARRIER BALANCE AND BLACK LEVEL ADJUSTMENT
14. INDOOR WHITE BALANCE ADJUSTMENT
15. OUTDOOR WHITE BALANCE ADJUSTMENT
16. AWB OFFSET ADJUSTMENT
17. COLOUR PHASE AND R-Y/B-Y GAIN ADJUSTMENT
18. HIGH INTENSITY SUPPRESS (HIGH CUT) ADJUSTMENT
19. AWT MODE (OFFSET) ADJUSTMENT
20. AWT MODE (GAIN) ADJUSTMENT
21. HALL AMP ADJUSTMENT

AUTO FOCUS SECTION

22. AF GATE ADJUSTMENT
23. BIMOLF GAIN CONTROL ADJUSTMENT
24. AF VH FREQUENCY ADJUSTMENT

TABLE 1

CCD DRIVE SECTION

1. BACK FOCUS ADJUSTMENT

(1) Aim the camera at the Hunting Chart 3m distance and zoom all the way in fully tele position.
(2) Focus the lens on the object.
(3) Confirm that Focus ring indicates 3m.
(4) Adjust the relay lens adjustment point as shown in Fig. C6.

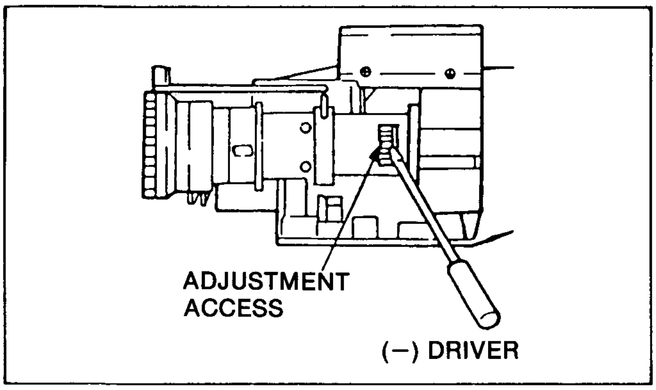


Fig. C6

2. PLL FREQUENCY ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
PIN 7 OF B201	C206	╳	╳
M. EQ.		**SPEC.**	
FREQUENCY COUNTER		9.656250MHz±10Hz	

B201,C206 : Sensor C.B.A.

(1) Connect the frequency counter to Pin 7 of B201
(2) Adjust the C206 (PLL frequency control) so that the frequency becomes 9.656250MHz +– 10Hz

3. V-SUB ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
╳	VR201	NO	REFER TO Fig. C7
M. EQ.		**SPEC.**	
MONITOR TV		NO BLOOMING	

(1) Zoom all the way in fully tele position and aim the camera at the Halogen lamp as shown in Fig. C7.
(2) Set the High Speed Shutter SW to OFF position.

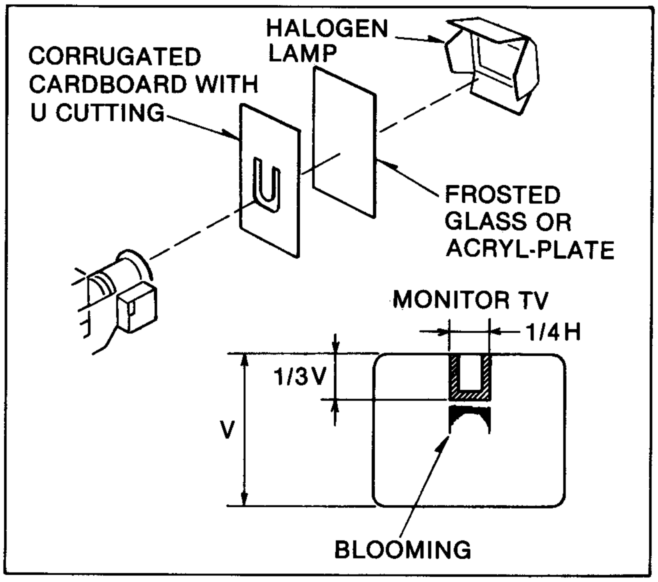

HALOGEN LAMP
CORRUGATED CARDBOARD WITH U CUTTING
FROSTED GLASS OR ACRYL-PLATE
MONITOR TV
1/4H
1/3V
V
BLOOMING

Fig. C7

(3) Blind the lighting using frosted glass or acryl plate to diffuse incoming light, and also put a corrugated cardboard which inside is cut to "U" shape as shown in Fig. C8.
(4) Connect the jumper wire between TP516 and TP520 to open the iris.
(5) Adjust VR201 (Blooming control) so that blooming is just disappeared.
If blooming is not disappeared completely, adjust VR201 until minimum blooming.
(6) High Speed Shutter "ON" and "OFF" both mode, confirm that the monitored picture does not contain the blooming even the corrugated cardboard moves as shown in Fig. C8.

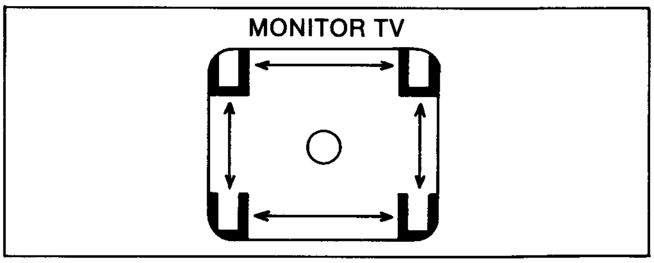


Fig. C8

Note :
J–Chart is also available for rough

(1) Aim the camera at J–Chart.
(2) Set the lens to fully tele position. And set the distance so that lower 1/3 of J–Chart comes to full picture frame on TV screen.
(3) Connect the jumper wire between TP516 and TP520 to open the the iris.
(4) Adjust the VR201 so that the blooming is just disappeared.

4. CCD OUTPUT ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
TP201	VR202	NO	J CHART
M. EQ.		SPEC.	
OSCILLOSCOPE		180mV±10mV	

Note :
TP201,VR202 : Sensor C.B.A.
TP515,VR327 : Process C.B.A.

(1) Aim the camera at J–Chart.
(2) Adjust the VR327 (ALC control) so that the voltage at TP515 becomes 280mV +– 10mV.
(3) Adjust the VR202 (CCD output control) so that the level "A" of TP201 becomes 180mV +– 10mV as shown in Fig. C9.

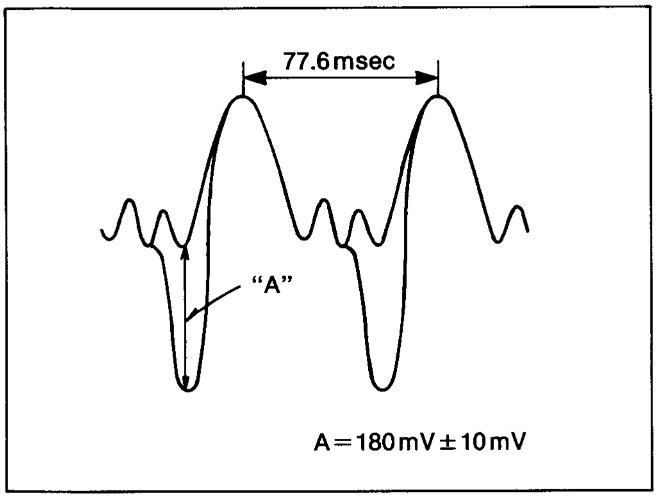


Fig. C9

PROCESS SECTION

5. AGC ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
TP514	VR324	NO	GRAY SCALE CHART
M. EQ.		SPEC.	
OSCILLOSCOPE		300mV±20mVp-p	

Note :
TP514,VR324 : Process C.B.A.

(1) Aim the camera at the Gray Scale Chart.
(2) Connect the oscilloscope to TP514 and trigger with pin 7 of FP306 (H–rate).
(3) Adjust the zoom to obtain 40usec picture frame as shown in Fig. C10.
(4) Adjust the VR324 (AGC control) so that the signal level becomes 300mV +– 20mVp–p.

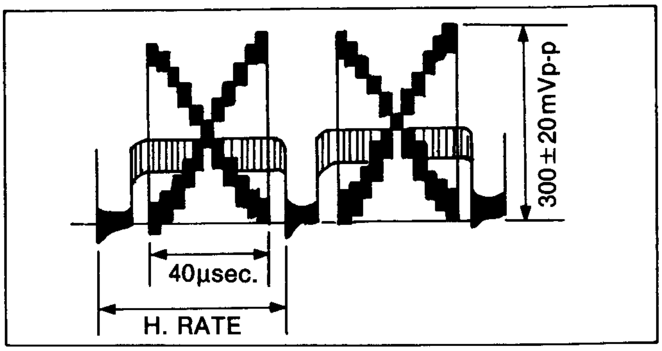


Fig. C10

6. Y 1H/2H DELAY LEVEL ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
TS5, TS2, TS8 (TEST ROUND)	VR320 VR318	NO	GRAY SCALE
M. EQ.		SPEC.	
OSCILLOSCOPE		0±4.5mVp-p	

Note :
TS2,TS5,TS8,VR318,VR320 : Process C.B.A.

(1) Aim the camera at the Gray Scale Chart.
(2) Connect the oscilloscope to TS5 (CH–A) and TS2 (CH–B). (The gain for CH–A and CH–B should be same.)
(3) Set the CH–B for "INVERT" mode.
(4) Set the oscilloscope for "ADD" mode.
(5) Adjust the VR320 (1H delay level control) so that the waveform level becomes 0 +– 4.5mVp–p.
(6) Reconnect the CH–B probe to TS8 and continue the "INVERT" mode for CH–B. (CH–A still connecting to TS5.)
(7) Adjust the VR318 (2H delay level control) so that waveform level becomes 0 +– 4.5mVp–p.

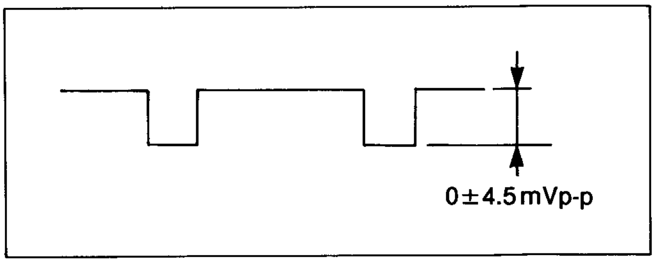


Fig. C11

7. YH LEVEL ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
PIN 7 OF FP 306	VR315	NO	GRAY SCALE CHART
M. EQ.		SPEC.	
OSCILLOSCOPE		B/A=2.33±0.15	

Note :
FP306,VR315 : Process C.B.A.

(1) Aim the camera at the Gray Scale Chart.
(2) Connect the oscilloscope to pin7 of FP306.
(3) Adjust the VR315 (YH level control) so that the signal ratio "B/A" becomes 2.33 +− 0.15 as shown in Fig. C12.

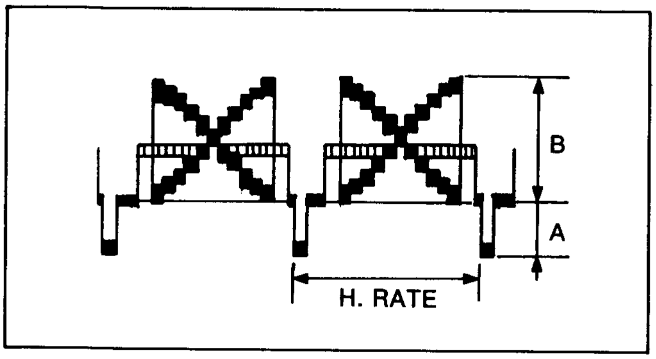


Fig. C12

8. CHROMA 1H/2H DELAY LEVEL ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
TS7, TS10, TS11 (TEST ROUND)	VR319 VR317	YES	

M. EQ.	SPEC.
OSCILLOSCOPE	0±4.5mV

Note :
TS7,TS10,TS11,VR317,VR319 : Process C.B.A.

(1) Cover the camera lens with lens cap.
(2) Supply the "WHD" signal from Pin2 of B305 to TS7 through the buffer circuit and adjust VR1 on the buffer circuit so that the level of TS7 becomes 300mV +− 5mVp−p as shown in Fig. C13.

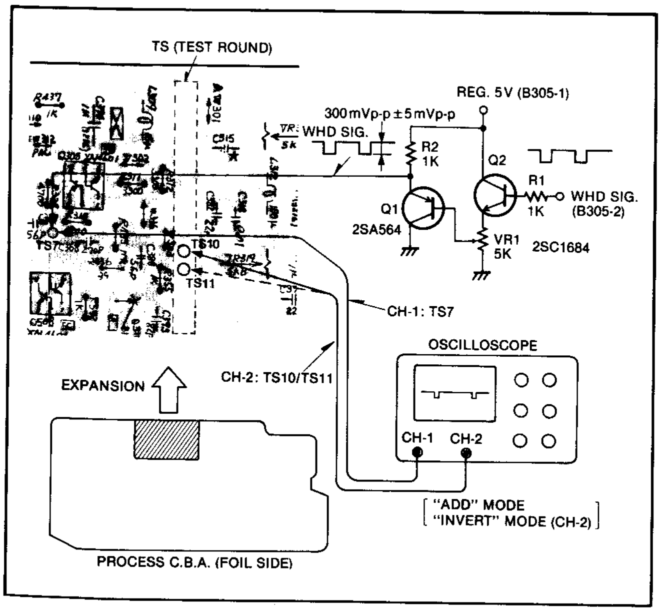

TS (TEST ROUND)
REG. 5V (B305-1)
300mVp-p±5mVp-p
VR: 5k
WHD SIG.
R2 1K
Q2
R1 1K
WHD SIG. (B305-2)
Q1 2SA564
VR1 5K
2SC1684
TS10
TS11
TS7
CH-1: TS7
OSCILLOSCOPE
EXPANSION
CH-2: TS10/TS11
CH-1
CH-2
"ADD" MODE
"INVERT" MODE (CH-2)
PROCESS C.B.A. (FOIL SIDE)

Fig. C13

(3) Set the oscilloscope to "ADD" mode and "INVERT" mode for CH−B.
(4) Connect the oscilloscope CH−A to TS7 and CH−B to TS10.
(5) Adjust the VR319 (Chroma 1H delay level control) so that the level of waveform becomes 0 +− 4.5mV.
(6) Exchange the connecting point of CH−B from TS10 to TS11.
(7) Adjust the VR317 (Chroma 2H delay level control) so that the level of waveform becomes 0 +− 4.5mV.

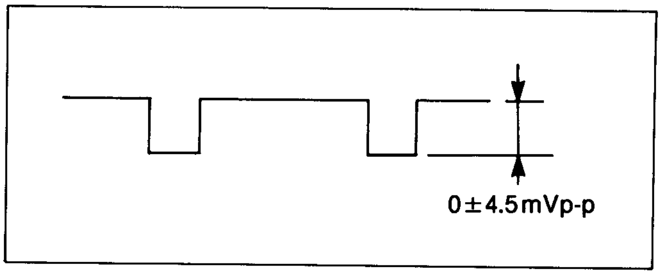


Fig. C14

9. BURST PHASE ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
VIDEO OUT	VR329	YES	

M. EQ.	SPEC.
VECTOR SCOPE	135 degree±2 degree

Note :
VR329 : Process C.B.A.

(1) Cover the lens with lens cap.
(2) Supply the video output to vectorscope.
(3) Set the vectorscope for NTSC mode.
(4) Adjust the VR329 (Burst phase control) so that burst phase becomes 135 +− 2degrees.

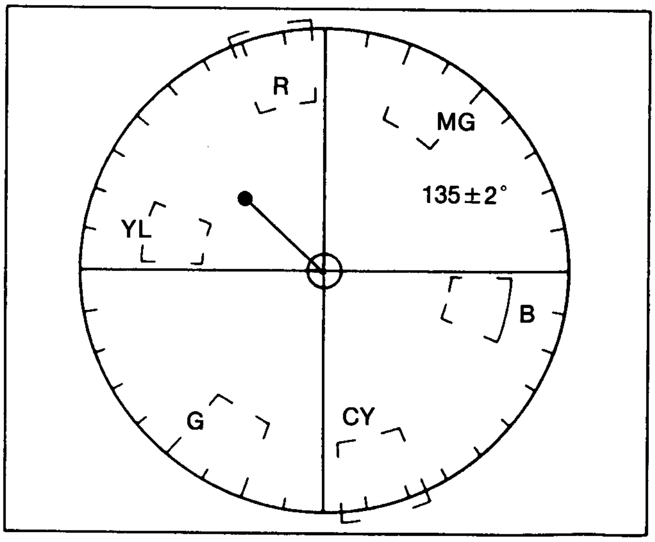

R
MG
135±2°
YL
B
G
CY

Fig. C15

10. PEDESTAL LEVEL ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
TP514	VR301	YES	
M. EQ.		SPEC.	
OSCILLOSCOPE		SIGNAL LEVEL EQUALS THE BLANKING (BLANK) LEVEL.	

Note :
TP514,VR301 : Process C.B.A.

(1) Cover the camera lens with lens cap.
(2) Connect the oscilloscope to TP514 and trigger with Pin7 of FP306 (H-rate).
(3) Adjust the VR301 (Pedestal level control) so that the signal level equals the BLK (Blanking) level as shown in Fig. C16.

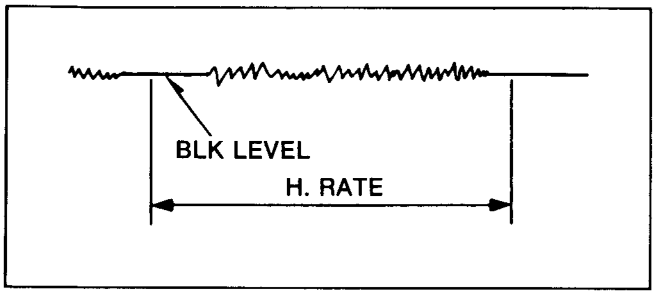


Fig. C16

11. IRIS VR ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
TP523	VR322	YES	
M. EQ.		SPEC.	
D.V.M. V.T.V.M.		2.1V±0.1V	

Note :
TP523,VR322 : Process C.B.A.
AGC adjustment should be completed.

(1) Set the iris VR to centre click position and cover the camera lens with the lens cap.
(2) Connect the volt meter to TP523.
(3) Adjust VR322 (Iris control) so that the DC voltage of TP523 becomes 2.1V +- 0.1V

12. ALC ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
TP515	VR327	NO	GRAY SCALE CHART
M. EQ.		SPEC.	
OSCILLOSCOPE		280mV±20mVp-p	

Note :
TP515,VR327 : Process C.B.A.

(1) Set the iris VR to centre click position.
(2) Aim the camera at the Gray Scale Chart.
(3) Connect the oscilloscope to TP515 and trigger with Pin7 of FP306 (H-rate).
(4) Adjust the zoom to obtain 40usec picture frame as shown in Fig. C17.
(5) Adjust the VR327 (Auto iris control) so that the signal level becomes 280mV +- 20mVp-p.

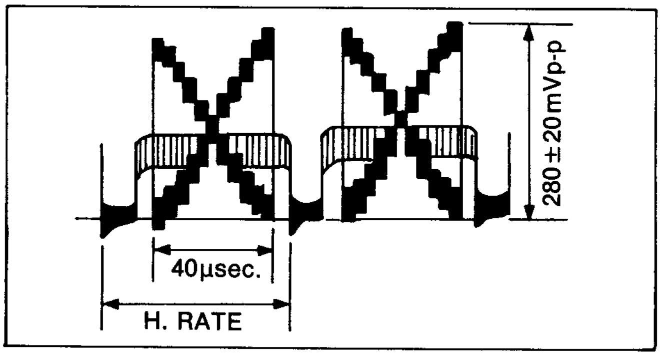


Fig. C17

13. CARRIER BALANCE AND BLACK LEVEL ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
VIDEO OUTPUT	VR305 VR306 VR303 VR304	YES	
M. EQ.		SPEC.	
VECTORSCOPE		CENTER OF VECTORSCOPE	
OSCILLOSCOPE		WAVEFORM IS MINIMIZED	

Note :
TP511,TP512,TP513,VR303,VR304,VR305,VR306 : Process C.B.A.

WITH VECTORSCOPE

(1) Cover the lens with lens cap.
(2) Connect the jumper wire between centre of VR324 and TP511.
(3) Connect the jumper wire among TP511,TP512 and TP513 to cut the R-Y, B-Y feed back loop.

(4) Adjust the VR305 and VR306 (Black pedestal controls) so that the colour vector at the centre of screen on vectorscope.
(5) Disconnect the jumper wire between VR324 and TP511.
(6) Adjust the VR303 and VR304 (Carrier balance controls) so that the colour vector at the centre of screen on vectorscope.

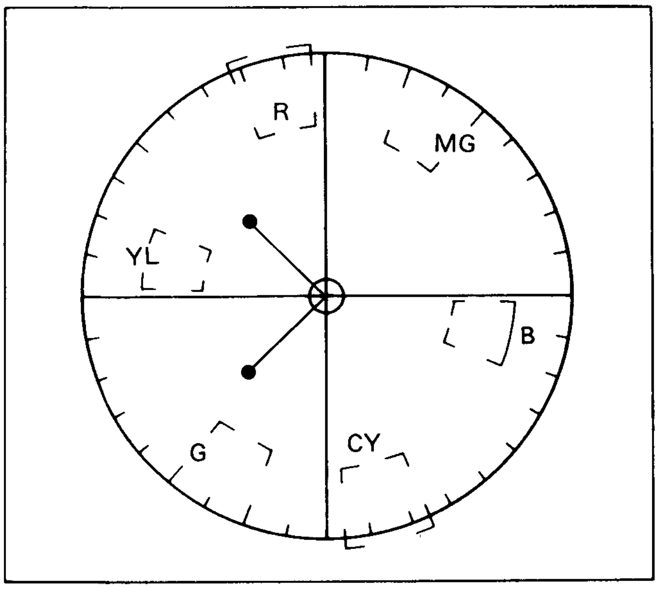


Fig. C18

WITH OSCILLOSCOPE

(1) Adjustment condition and procedures are the same as using vectorscope.
(2) Adjust the VR305 and VR306 first so that the waveform becomes minimized as shown in Fig. C19.
(3) Adjust the VR303 and VR304 so that the waveform becomes minimized as shown in Fig. C19.

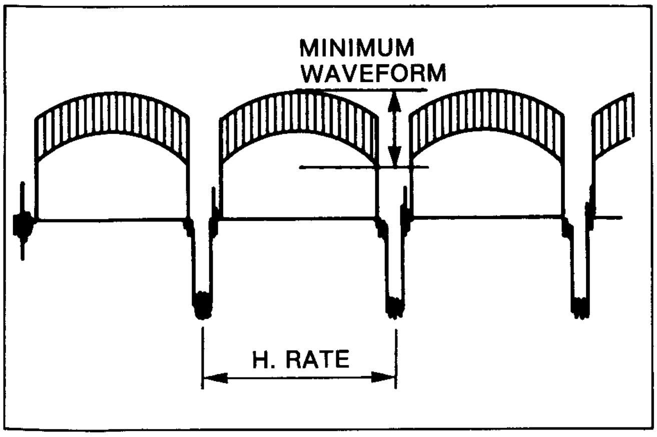


Fig. C19

14. INDOOR WHITE BALANCE ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
VIDEO OUTPUT	VR311 VR312	NO	WHITE CHART
M. EQ.		**SPEC.**	
VECTORSCOPE		CENTER OF VECTORSCOPE	
OSCILLOSCOPE		WAVEFORM IS MINIMIZED	

Note :
TP511,TP512,TP513,VR311,VR312 : Process C.B.A.

WITH VECTORSCOPE

(1) Set the White balance switch to "INDOOR" mode.
(2) Connect the jumper wire among TP511,TP512 and TP513 to cut the R−Y, B−Y feed back loop.
(3) Aim the camera at the White Chart.
(4) Supply the video output to vectorscope.
(5) Adjust the VR311 and VR312 (White balance controls) so that the colour vector at the centre of screen on vectorscope.

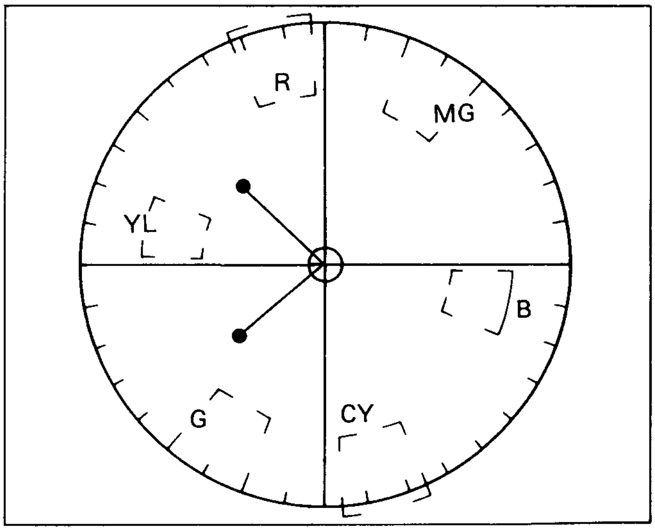


Fig. C20

WITH OSCILLOSCOPE

(1) Adjustment condition and procedures are the same as using vectorscope.
(2) Adjust the VR311 and VR312 so that the waveform becomes minimized.

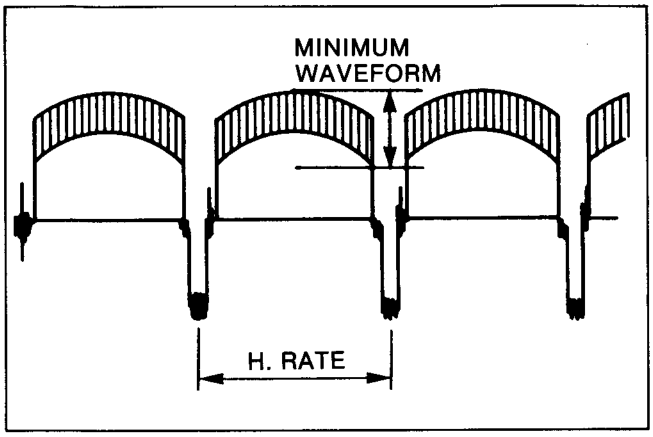

MINIMUM WAVEFORM
H. RATE

Fig. C21

15. OUTDOOR WHITE BALANCE ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
VIDEO OUTPUT	VR528 VR529	NO	WHITE CHART

M. EQ.	SPEC.
VECTORSCOPE	CENTER OF VECTORSCOPE
OSCILLOSCOPE	WAVEFORM IS MINIMIZED

Note :
TP511,TP512,TP513,VR528,VR529 : Process C.B.A.

WITH VECTORSCOPE

(1) Set the White balance switch to "OUTDOOR".
(2) Connect the jumper wire among TP511,TP512 and TP513 to cut the R−Y, B−Y feed back loop.
(3) Aim the camera at the White Chart.
(4) Supply the video output to vectorscope.

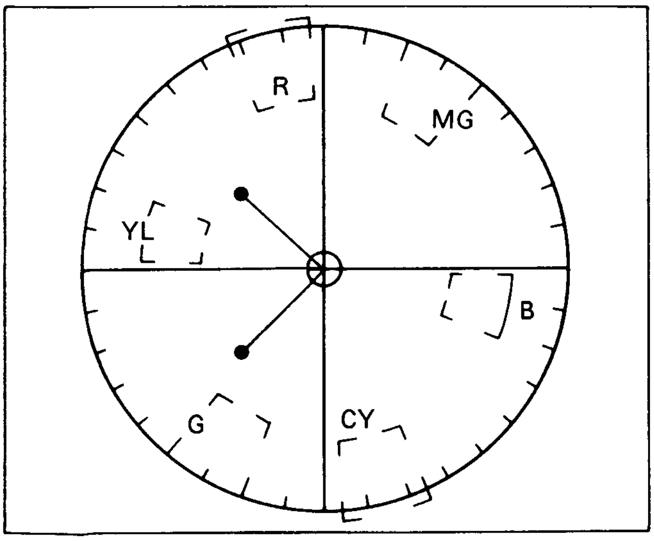


Fig. C22

(5) Attach the colour temperature conversion filter VFK0374 (C12) and VFK0375 (C2) which convert 3200 degrees Kelvin to 5600 degrees Kelvin in front of the lens and AWT sensor.
(If the colour temperature conversion filters are not available, use a day light source.)
(6) Adjust the VR528 and VR529 (Outdoor gain controls) so that the colour vector at the centre of screen on vectorscope.

WITH OSCILLOSCOPE

(1) Adjustment condition and procedures are the same as using vectorscope.
(2) Adjust VR528 and VR529 so that the waveform becomes minimized.

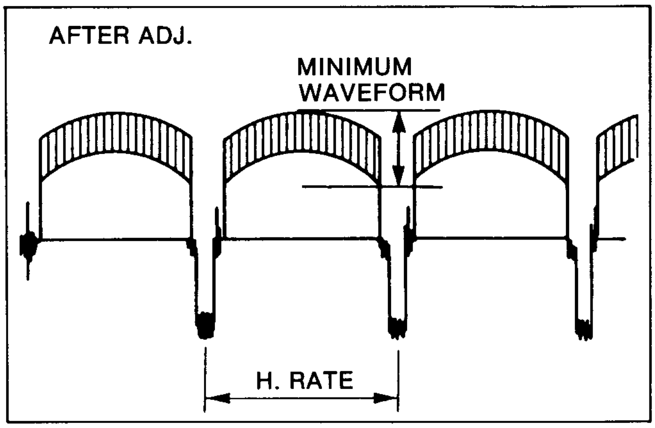

AFTER ADJ.
MINIMUM WAVEFORM
H. RATE

Fig. C23

HOW TO ATTACH THE FIXTURE

Attach the fixture to the lens and then set the colour temperature conversion filter to fixture.

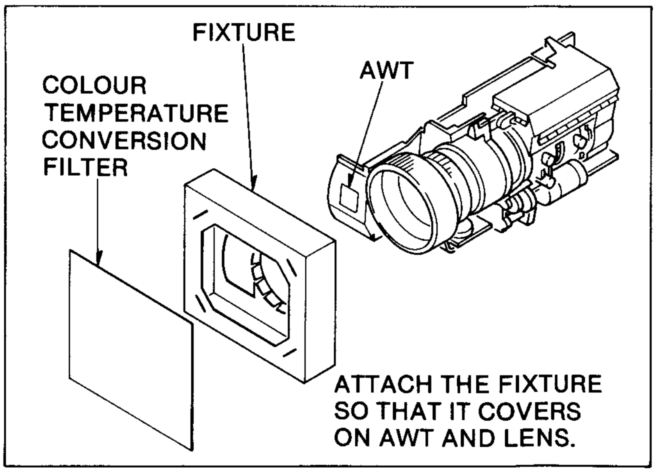

FIXTURE
AWT
COLOUR TEMPERATURE CONVERSION FILTER
ATTACH THE FIXTURE SO THAT IT COVERS ON AWT AND LENS.

Fig. C24

HOW TO MAKE A FIXTURE

(1) Print the actual measure at the hard paper referring Fig. C25.
(2) Cut the paper along the solid line.
(3) Apply the past to the oblique line.
(4) Fold the paper along the dotted line.
(5) Construct the fixture referring completion drawing.

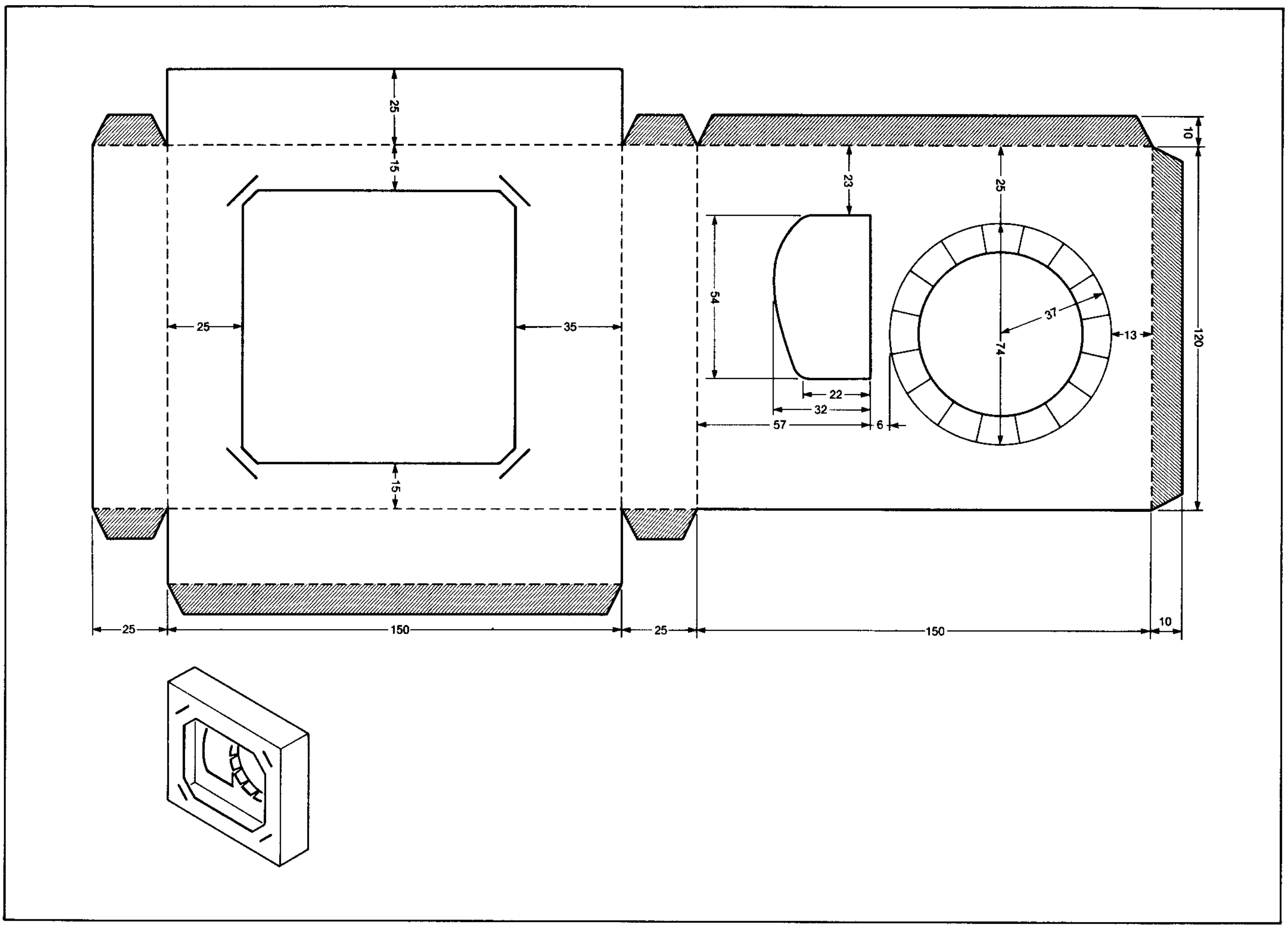


Fig. C25

HOW TO USE THE SUN LIGHT

Incoming light mist be outdoor source (Sun light) only, source and illumination on the sensor must be more than 500Lux, and colour temperature must be within 5000 to 6000 degrees Kelvin.

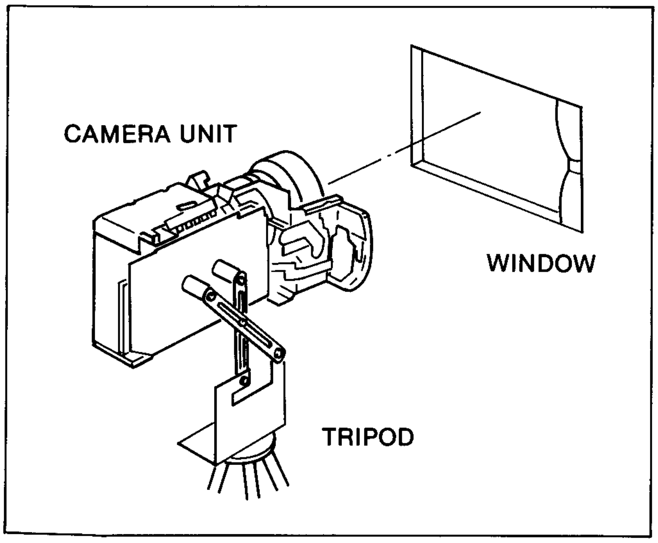


Fig. C26

16. AWB OFFSET ADJUSTMENT WITH OSCILLOSCOPE

TP	ADJ.	IRIS	CHART
TP511 TP512 TP513	VR530 VR531		WHITE CHART

M. EQ.	SPEC.
OSCILLOSCOPE	0±0.1V

Note :

TP511,TP512,TP513,TP519,TP521,VR530,VR531 : Process C.B.A.

(1) Set the White Balance Switch to "INDOOR"
(2) Connect the jumper wire between TP519 and TP521 to make a easy adjustment.
(3) Aim the camera to White Chart.
(4) Connect the oscilloscope to TP512 and GND probe to TP511.
(5) Adjust the VR530 (AWB OFFSET) so that the voltage becomes 0 +– 0.1V at TP512.
(6) Exchange the HOT probe from TP512 to TP513.
(7) Adjust the VR531 (AWB OFFSET) so that the
9:19 voltage becomes 0 +– 0.1V at TP513.

17. COLOUR PHASE AND R-Y/B-Y GAIN ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
VIDEO OUTPUT	VR310 VR307 VR314 VR313 VR328	NO	COLOUR CHIP CHART
M. EQ.		SPEC.	
VECTORSCOPE		Fig. C27	

Note :
TP511,TP512,TP513,VR307,VR310,VR313,VR314, VR328 : Process C.B.A.

(1) Aim the camera at the Colour Chip Chart.
(2) Set the vectorscope for NTSC mode.
(3) Adjust the VR310 (Colour phase control) so that the cracked Red vector comes one.
(4) Set the vectorscope to PAL mode.
(5) Connect the jumper wire among TP511,TP512 and TP513.
(6) Adjust the VR307 and VR308 (Colour phase control), VR313 (R−Y Gain control), VR314 (B−Y Gain control) so that the vector of each colour as shown in Fig. C27.

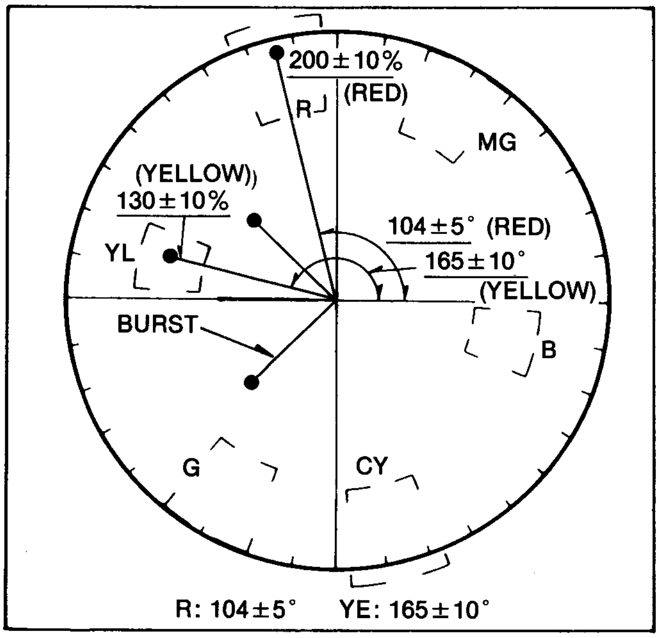


Fig. C27

18. HIGH INTENSITY SUPPRESS (HC) ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
	VR309	NO	COLOUR CHART
M. EQ.		SPEC.	
TV MONITOR		HALF SIZE (YELLOW) YELLOW COLOUR IS JUST BEFORE CUT OFF	

Note :
VR309 : Process C.B.A.

(1) Aim the camera at the Colour Bar.
(2) Set the horizontal picture frame to 40usec, and memorize the level of Yellow part.
(3) Set the horizontal picture frame to 16usec. (Expand the Yellow part.)
(4) In case that the level of Yellow part is more than 50% compared with the Yellow level of when horizontal picture frame was 40usec, adjust the VR309 (High cut control) so that the level of yellow becomes 50% as shown in Fig. C28.
(5) In case that the level of Yellow part is already less than 50% of when the horizontal picture frame was 40usec, adjust the VR309 until before just Yellow part begins to disappear.

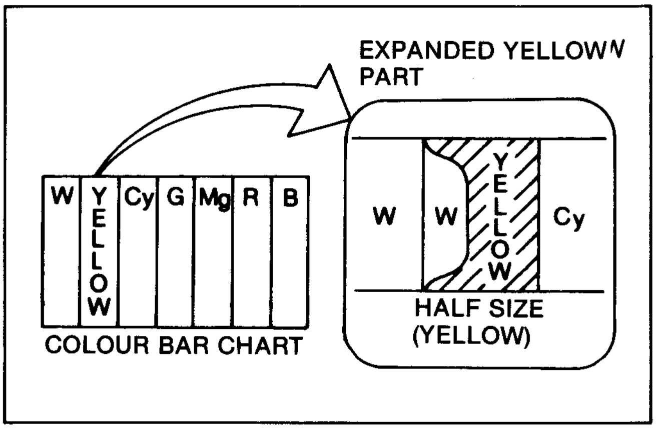


Fig. C28

19. AWT MODE (OFFSET) ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
VIDEO OUTPUT	VR525 VR526	NO	WHITE CHART
M. EQ.		SPEC.	
VECTORSCOPE		CENTER OF VECTORSCOPE	
OSCILLOSCOPE		WAVEFORM IS MINIMIZED	

Note :
TP511,TP512,TP513,TP519,TP521,VR525,VR526 : Process C.B.A.

WITH VECTORSCOPE

(1) Set the White balance switch to "AUTO".
(2) Aim the camera at the White Chart.
(3) Supply the video output to vectorscope.
(4) Connect the jumper wire among TP511,TP512 and TP513 to cut the R−Y, B−Y feed back loop.
(5) Connect the jumper wire between TP519 and TP521 to make a easy adjustment.
(6) Adjust the VR525 and VR526 (AWT Offset control) so that the vectors move to centre of screen on vectorscope.

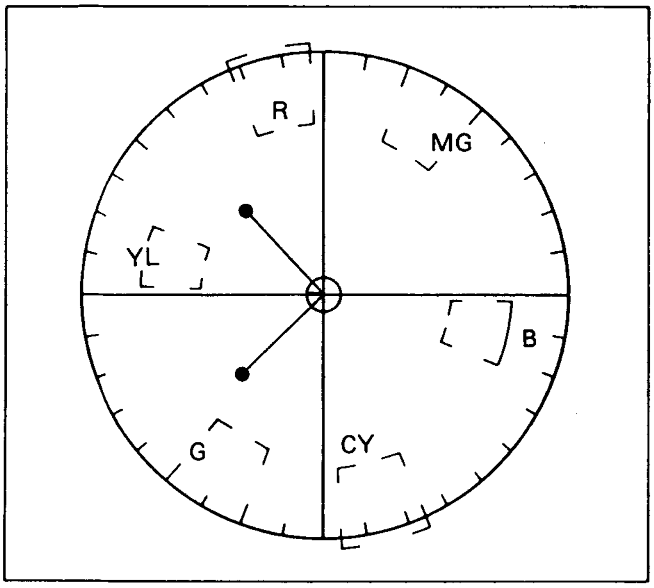


Fig. C29

WITH OSCILLOSCOPE

(1) Adjustment condition and procedures are the same as using vectorscope.
(2) Adjust the VR525 and VR526 so that the waveform becomes minimized.

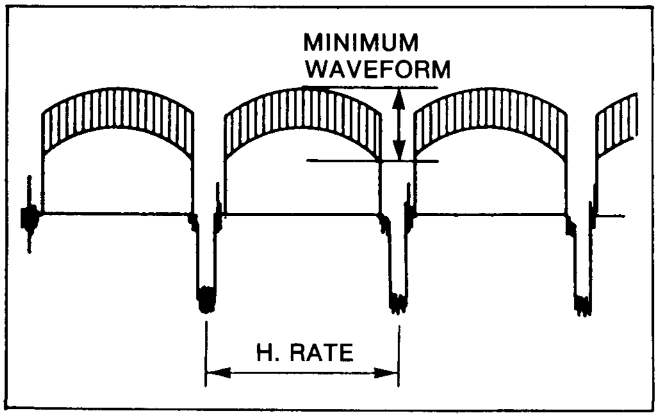


Fig. C30

20. AWT MODE (GAIN) ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
VIDEO OUTPUT	VR523 VR527	NO	WHITE CHART
M. EQ.		**SPEC.**	
VECTORSCOPE		CENTER OF VECTORSCOPE	
OSCILLOSCOPE		WAVEFORM IS MINIMIZED	

Note :
TP511,TP512,TP513,TP519,TP521,VR523,VR527
Process C.B.A.

WITH VECTORSCOPE

(1) Set the White balance switch to "AUTO".
(2) Aim the camera at the White Chart.
(3) Supply the video output to vectorscope.
(4) Connect the jumper wire among TP511,TP512 and TP513 to cut the R−Y, B−Y feed back loop.
(5) Connect the jumper wire between TP519 and TP521 to make a easy adjustment.
(6) Attach the fixture with colour temperature conversion filter VFK0547 (C8) to the in front of lens.

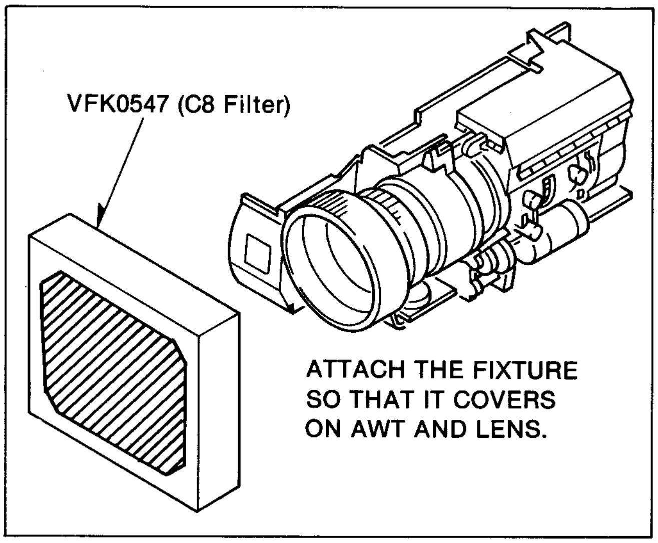


Fig. C31

(7) Adjust the VR523 and VR527 ((AWT Gain control) so that the colour vector moves to centre of screen on vectorscope.
(8) Next, remove the fixture with filter from lens and confirm that whether colour vector moves to centre or not. If not, readjust the AWT offset adjustment again and then repeat this adjustment.

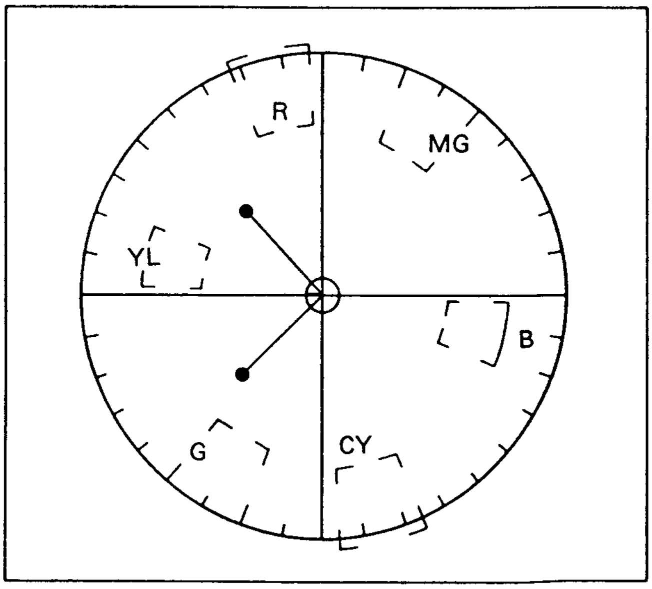


Fig. C32

WITH OSCILLOSCOPE

(1) Adjustment condition and procedures are the same as using vectorscope.
(2) Adjust the VR523 and VR527 so that the waveform becomes minimized.
(3) Confirm the AWT offset mode.

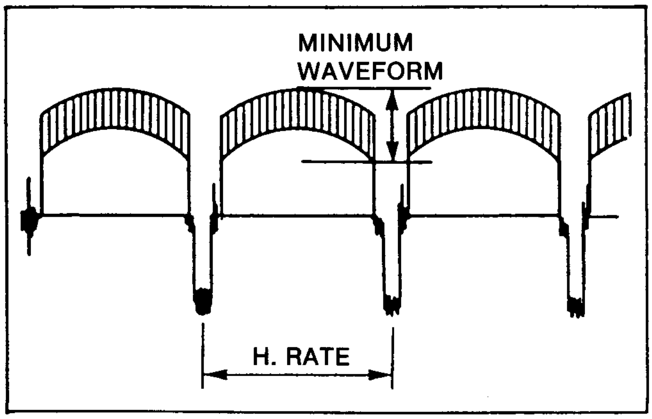


Fig. C33

21. HALL AMP ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
TP518 TP516 TP521 TP520	VR532 VR533	NO	GRAY SCALE CHART
M. EQ.		**SPEC.**	
D.V.M.			

Note :
TP516,TP518,TP520,TP521,VR532,VR533 : Process C.B.A.

(1) Connect the jumper wire between TP516 and TP521 to iris close.
(2) Adjust the VR532 (Hall amp control) so that the voltage at TP518 becomes 1.74V +− 0.02V.
(3) Exchange the connecting jumper wire from TP521 to TP520 to iris open. (Now connecting TP516 and TP520.)
(4) Adjust the VR533 (Hall amp control) so that the voltage at TP518 becomes 3.72V +− 0.05V.
(5) Confirm the voltage at TP518 by connecting a jumper wire between TP516 and TP521 then if it is out of specification, repeat this adjustment form first item.
(Voltage at TP518 is control by both VR, so even if iris close voltage has adjusted by VR532 correctly, it is changed when iris open voltage is adjusted by VR533. Please consider changing level when you adjust.)

AUTO FOCUS SECTION

Note :
PREPARATION
Camera zoom is positioned at the end of TELE side.

22. AF GATE ADJUSTMENT

TP	ADJ.	IRIS CAP	CHART
TP702 TP703	C703	NO	
M. EQ.		**SPEC.**	
OSCILLOSCOPE		T=9.6±0.4µsec.	

Note :
TP702,TP703,C703 : Auto Focus C.B.A.

(1) Connect the oscilloscope to TP702 and TP703 by dual trace mode.
(2) Adjust the C703 (AF Gate control) so that the phase difference becomes 9.6usec +− 0.4usec.

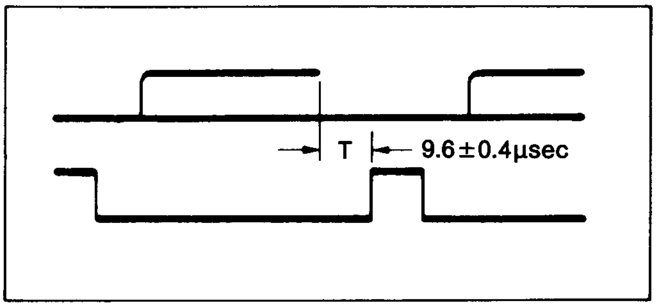


Fig. C34

23. BIMOLF GAIN CONTROL ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
TP704	VR703	YES	
M. EQ.		**SPEC.**	
OSCILLOSCOPE		A=11V±0.2Vp-p	

Note :
TP704,VR703 : AF C.B.A.

(1) Set the Focus selector to "MANUAL".
(2) Cover the camera lens with the lens cap.
(3) Connect the oscilloscope to TP704.
(4) Adjust the VR703 (Bimolf gain control) so that the signal level becomes 11V +− 0.2Vp−p.

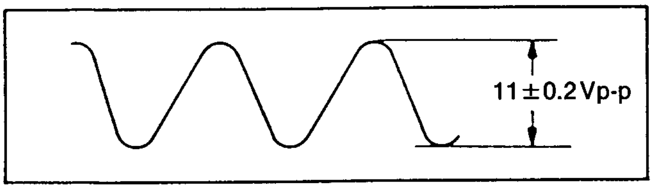


Fig. C35

24. AF VH FREQUENCY ADJUSTMENT

TP	ADJ.	IRIS CAP	CHART
TP705	C737	NO	WHITE/GRAY CHART

M. EQ.	SPEC.
OSCILLOSCOPE	A=2.80V±0.05V DC-RANGE

Note :
TP705,TP710,C737 : Auto Focus C.B.A.
TP516,TP520 : Process C.B.A.

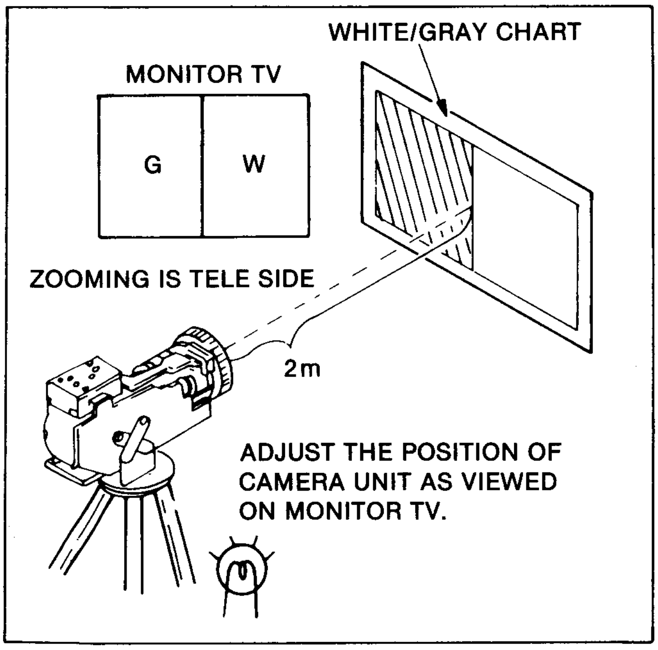

WHITE/GRAY CHART
MONITOR TV
G
W
ZOOMING IS TELE SIDE
2m
ADJUST THE POSITION OF CAMERA UNIT AS VIEWED ON MONITOR TV.

Fig. C36

(1) Set the Focus selector to "AUTO".
(2) Connect the jumper wire between TP516 and TP520 to iris open.
(3) Aim the camera at White/Gray Chart .
(4) Adjust the lighting condition so that level at TP710 becomes 180mV +- 10mVp-p as shown in Fig. C37.

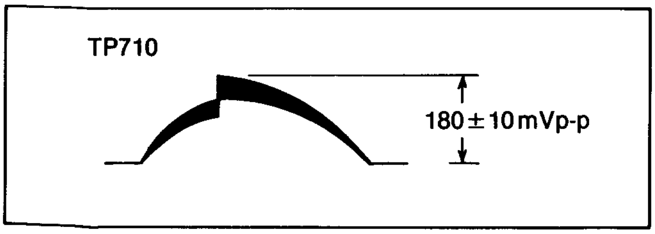

TP710
180±10mVp-p

Fig. C37

(5) Adjust the C737 (AF VH Frequency control) so that DC level at TP705 becomes 2.8V +- 0.05V.

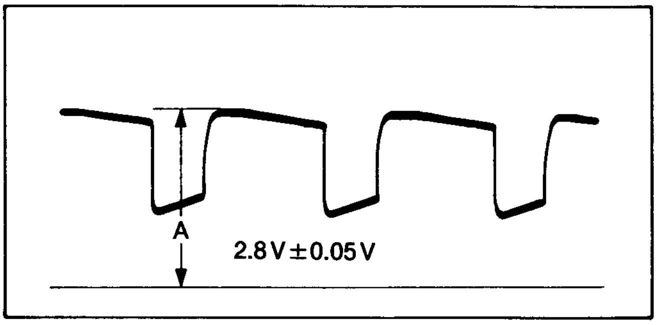


Fig. C38

2-4-2. ELECTRICAL ADJUSTMENT FOR E.V.F. SECTION

Note :
PREPARATION
Adjustment of camera section must be completed.
Electric View Finder must be connected to camera unit.

1. H-OSC ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
Pin 2 of P701	VR702	NO	BALL CHART

M. EQ.	SPEC.
FREQUENCY COUNTER	15.9kHz±0.1kHz

Note :
P701,VR702 : E.V.F. C.B.A.

(1) Connect the frequency counter to Pin2 of P701.
(2) Adjust the VR702 (H-OSC control) so that the frequency becomes 15.9KHz +- 0.1KHz.

2. CENTERING ADJUSTMENT

Note :
Deflection York, Centering Magnet : CRT

(1) Aim the camera at the Ball Chart
(2) Adjust the Deflection york and Centering magnet so that the picture on CRT is centred.

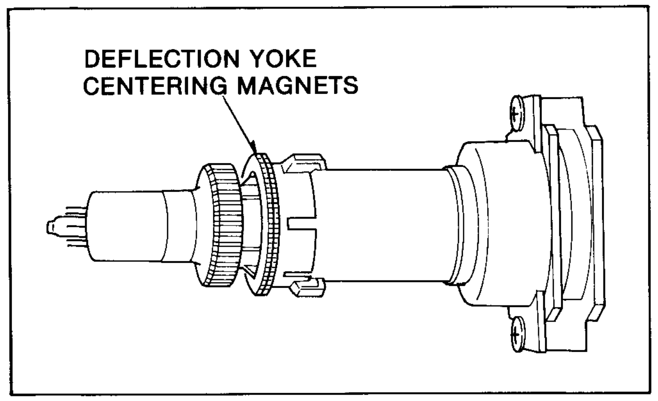

DEFLECTION YOKE
CENTERING MAGNETS

Fig. C39

3. FOCUS ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
	VR704	NO	BALL CHART
M. EQ.		**SPEC.**	
VIEWFINDER		BEST RESOLUTION	

Note :
VR704 : E.V.F. C.B.A.

(1) Aim the camera at the Ball Chart.
(2) Adjust the VR704 so that the picture on CRT becomes best resolution.

4. V. SIZE ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
	VR701	NO	GRAY SCALE CHART
M. EQ.		**SPEC.**	
VIEWFINDER		VERTICAL SIZE IS FIXED	

Note :
VR701 : E.V.F. C.B.A.

(1) Aim the camera at the Gray Scale Chart.
(2) Adjust the VR701 (Vertical size control) so that the vertical size becomes correct and picture does not rolling.

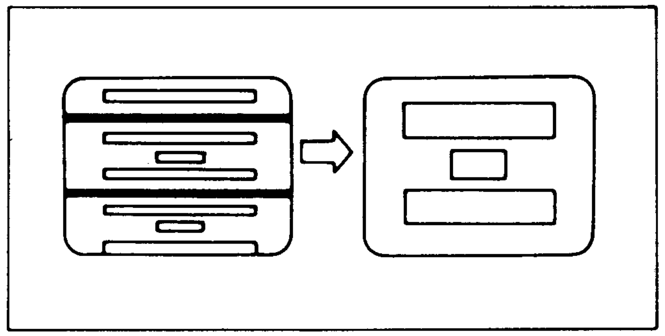


Fig. C40

5. BRIGHTNESS ADJUSTMENT

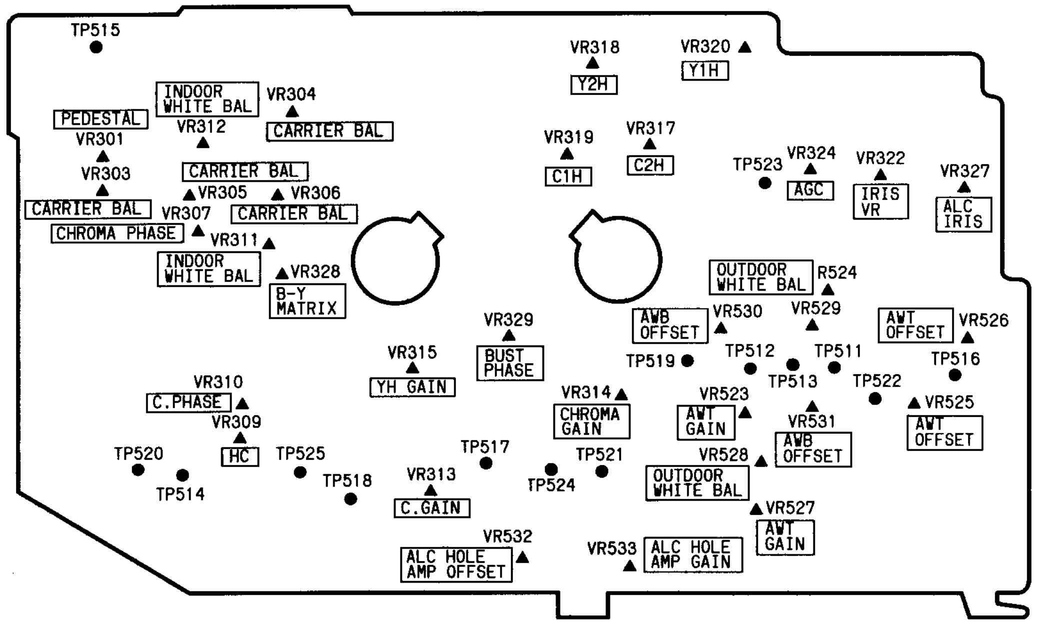
TP	ADJ.	LENS CAP	CHART
	VR705	NO	GRAY SCALE CHART
M. EQ.		**SPEC.**	
VIEWFINDER		NATURAL GRADATION	

Note :
VR705 : E.V.F. C.B.A.

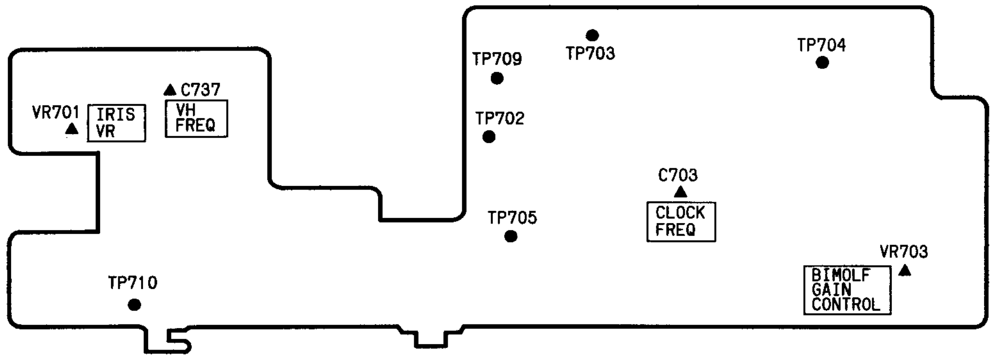
(1) Aim the camera at the Gray Scale Chart.
(2) Adjust the VR705 (Brightness control) so that the brightness for black and white bar on the CRT becomes same as the TV monitor brightness.

LOCATION OF TEST POINTS & CONTROLS (1)

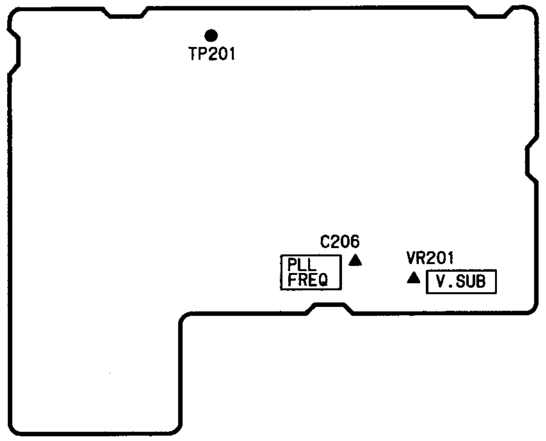
PROCESS C.B.A.


TP515
VR318
Y2H
VR320
Y1H
INDOOR WHITE BAL
VR304
PEDESTAL
VR312
CARRIER BAL
VR301
VR303
CARRIER BAL
VR305
VR306
CARRIER BAL
VR307
CARRIER BAL
CHROMA PHASE
VR311
INDOOR WHITE BAL
VR328
B-Y MATRIX
VR319
C1H
VR317
C2H
TP523
VR324
AGC
VR322
IRIS VR
VR327
ALC IRIS
OUTDOOR WHITE BAL
R524
VR329
BUST PHASE
AWB OFFSET
VR530
VR529
AWT OFFSET
VR526
VR315
YH GAIN
TP519
TP512
TP511
TP516
TP513
TP522
VR310
C.PHASE
VR309
HC
VR314
CHROMA GAIN
VR523
AWT GAIN
VR531
AWB OFFSET
VR525
AWT OFFSET
TP520
TP514
TP525
TP518
TP517
VR313
C.GAIN
TP524
TP521
VR528
OUTDOOR WHITE BAL
VR527
AWT GAIN
VR532
ALC HOLE AMP OFFSET
VR533
ALC HOLE AMP GAIN

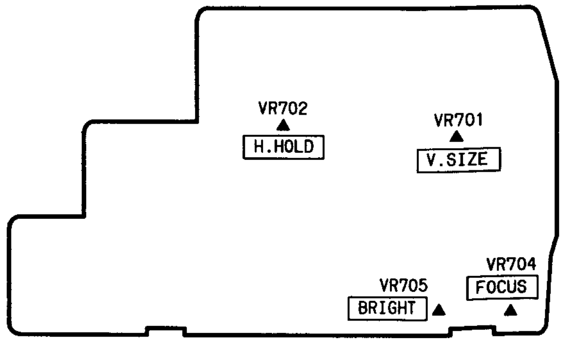
AUTO FOCUS C.B.A.


VR701
IRIS VR
C737
VH FREQ
TP709
TP703
TP704
TP702
TP705
C703
CLOCK FREQ
TP710
VR703
BIMOLF GAIN CONTROL

SENSOR C.B.A.

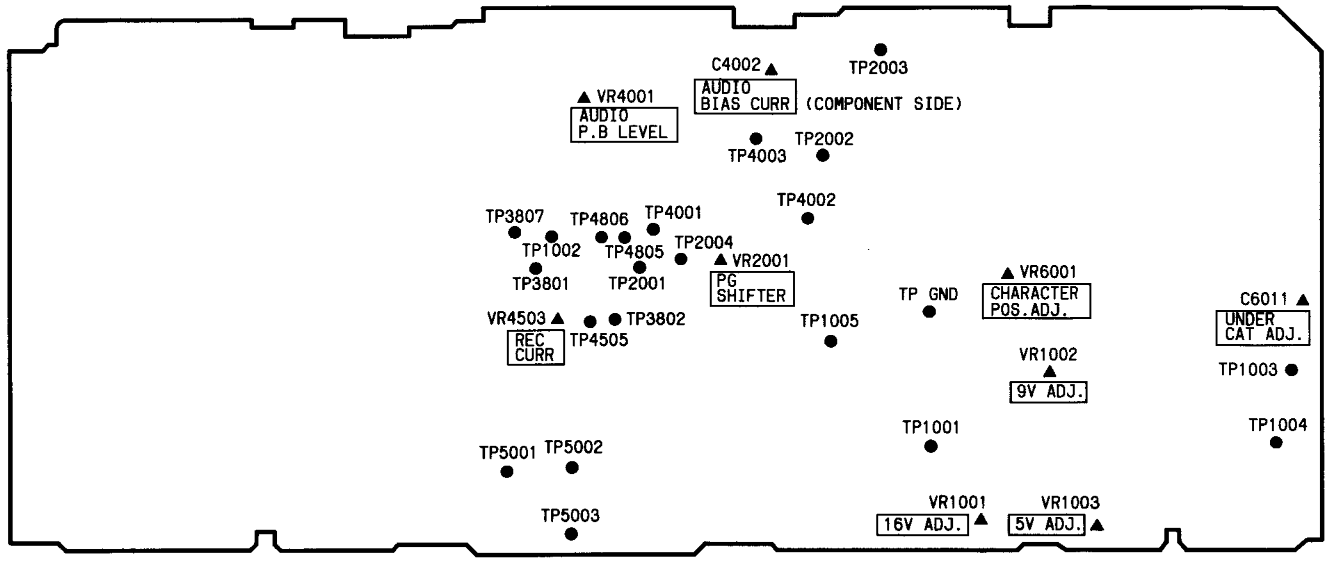

TP201
C206
PLL FREQ
VR201
V.SUB

E.V.F. C.B.A.

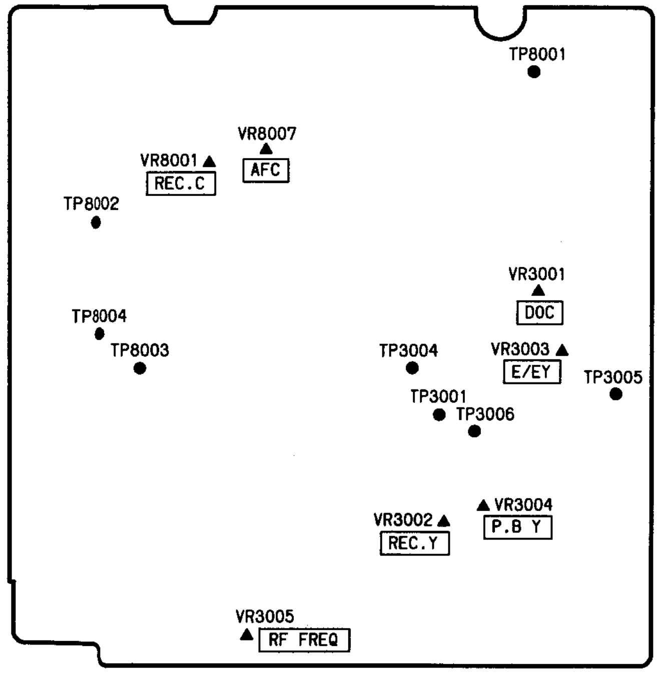

VR702
H.HOLD
VR701
V.SIZE
VR705
BRIGHT
VR704
FOCUS

LOCATION OF TEST POINTS & CONTROLS (2)

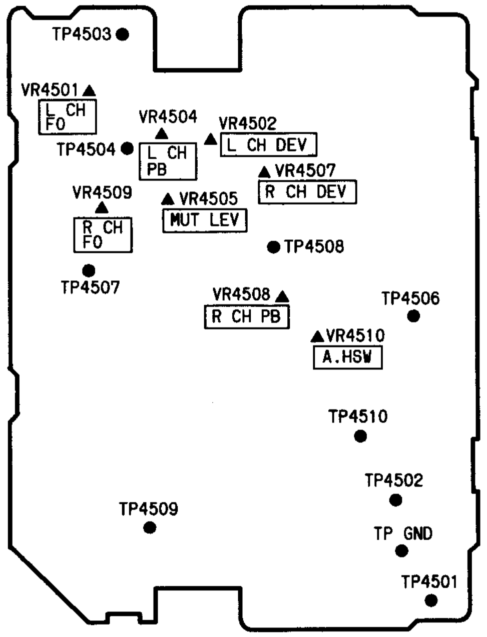
MAIN C.B.A.


C4002
TP2003
VR4001
AUDIO P.B LEVEL
AUDIO BIAS CURR
(COMPONENT SIDE)
TP4003
TP2002
TP3807
TP4806
TP4001
TP4002
TP1002
TP4805
TP2004
VR2001
PG SHIFTER
TP3801
TP2001
VR6001
CHARACTER POS.ADJ.
TP GND
C6011
UNDER CAT ADJ.
VR4503
TP3802
REC CURR
TP4505
TP1005
VR1002
9V ADJ.
TP1003
TP1001
TP1004
TP5001
TP5002
TP5003
VR1001
16V ADJ.
VR1003
5V ADJ.

LUMINANCE & CHROMINANCE SECTION


TP8001
VR8007
AFC
VR8001
REC.C
TP8002
VR3001
DOC
TP8004
TP8003
TP3004
VR3003
E/EY
TP3005
TP3001
TP3006
VR3004
P.B Y
VR3002
REC.Y
VR3005
RF FREQ

Hi-Fi AUDIO C.B.A.


TP4503
VR4501
L CH FO
VR4504
VR4502
L CH DEV
TP4504
L CH PB
VR4507
R CH DEV
VR4509
VR4505
MUT LEV
R CH FO
TP4508
TP4507
VR4508
R CH PB
TP4506
VR4510
A.HSW
TP4510
TP4502
TP4509
TP GND
TP4501

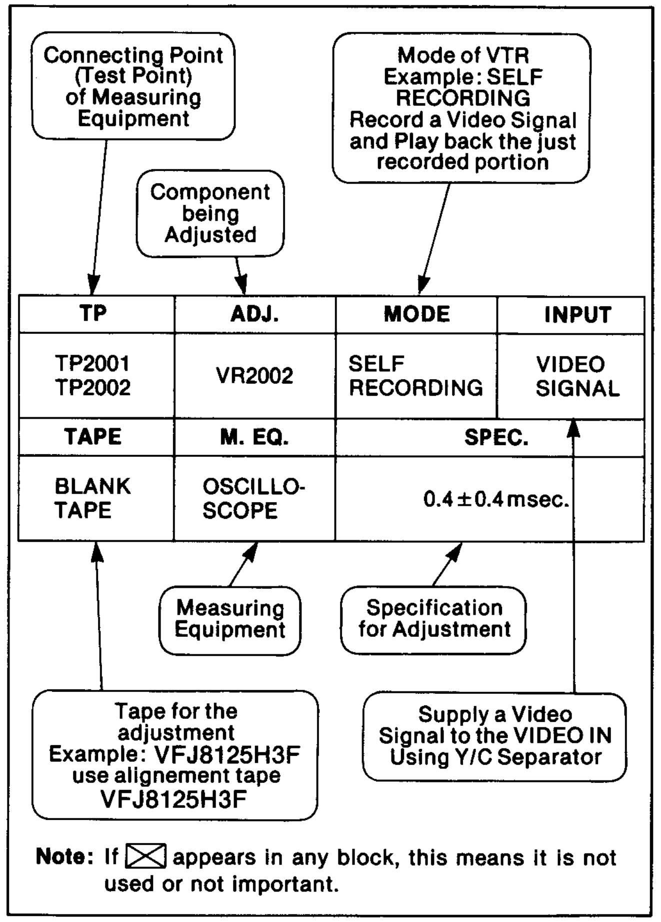
2-4-3. ELECTRICAL ADJUSTMENT FOR VTR SECTION

The following equipments are required for adjustment of the VHS Movie NV-M10.

(1) V.T.V.M. (Vacuum Tube Volt Meter)
D.V.M. (Digital Volt Meter)
(2) Dual trace Oscilloscope
*Voltage range : 0.06 ∼ 50V/div.
*Probe : 10:1 or 1:1
(3) Frequency Counter
*Frequency range : 0 ∼ 10MHz
(4) Signal Generator (Sine wave)
*Frequency range : 0 ∼ 10MHz
(5) Video Sweep Generator
(6) Colour monitor TV
(7) Plastic tip driver
(8) VHS Alignment tape (VFJ8125H3F)
(9) VHS Blank tape
(10) Pattern generator
(11) Y/C Separator (VFK0304)
(12) Extension cable (VFK0430)
(13) Y/C Separator connector (VFKS0074)

PREPARATION
(1) Remove the casing panels.
(2) Connect the Y/C Separator (VFK0304) to P3803 on the Main C.B.A. through Connector (VFKS0047) and extension cable (VFK0430).
(3) Supply the video signal to the unit through the Y/C Separator (VFK0304).
(4) Supply the audio signal to audio circuit through the external microphone socket.

HOW TO THE ADJUSTMENT PROCEDURES


Connecting Point (Test Point) of Measuring Equipment
Mode of VTR Example: SELF RECORDING Record a Video Signal and Play back the just recorded portion
Component being Adjusted
Measuring Equipment
Specification for Adjustment
Tape for the adjustment Example: VFJ8125H3F use allignement tape VFJ8125H3F
Supply a Video Signal to the VIDEO IN Using Y/C Separator

TP	ADJ.	MODE	INPUT
TP2001 TP2002	VR2002	SELF RECORDING	VIDEO SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	OSCILLO-SCOPE	0.4±0.4msec.	

Note: If ☒ appears in any block, this means it is not used or not important.

Fig. E1

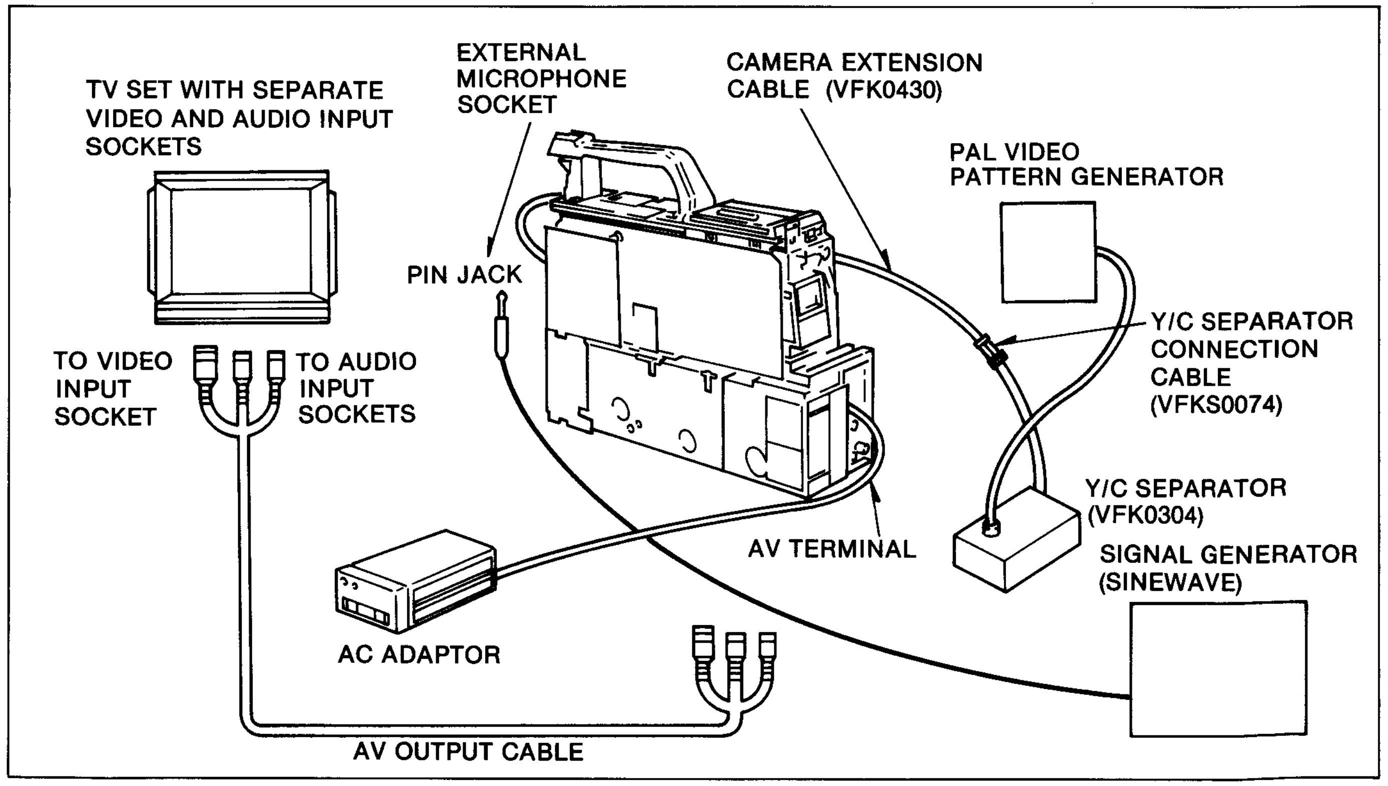

TV SET WITH SEPARATE VIDEO AND AUDIO INPUT SOCKETS
EXTERNAL MICROPHONE SOCKET
CAMERA EXTENSION CABLE (VFK0430)
PAL VIDEO PATTERN GENERATOR
PIN JACK
Y/C SEPARATOR CONNECTION CABLE (VFKS0074)
TO VIDEO INPUT SOCKET
TO AUDIO INPUT SOCKETS
Y/C SEPARATOR (VFK0304)
AV TERMINAL
SIGNAL GENERATOR (SINEWAVE)
AC ADAPTOR
AV OUTPUT CABLE

Fig. E2

POWER SECTION

1. REG. 5V ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP1003	VR1003	REC/PLAY	
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	D.V.M.	4.96±0.025V	

Note :

Camera unit should be connected to main C.B.A. during Power REG. adjustment (REG. 5V, REG. 9V and Camera REG. 16V)

2. REG. 9V ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP1002	VR1002	CAMERA RECORDING	
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	D.V.M.	$8.62^{+0.07V}_{-0.03V}$	

3. CAMERA REG. 16V ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP1001	VR1001	REC/PLAY	
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	D.V.M.	15.2±0.3V	

Note :

REG. 5V, REG 9V adjustment should be completed before this adjustment.

SERVO SECTION

4. PG SHIFTER ADJSUTMENT

TP	ADJ.	MODE	INPUT
TP2001 VIDEO OUT	VR2001	PLAY	
TAPE	**M. EQ.**	**SPEC.**	
ALIGNMENT TAPE (VFJ8125H3F)	OSCILLO-SCOPE	6.5H±0.5H	

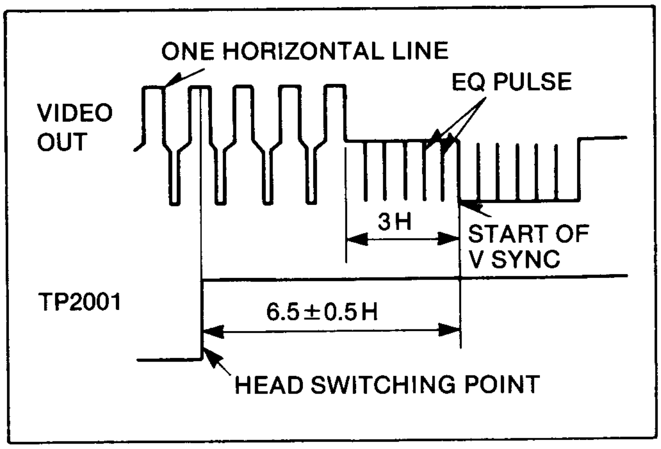


Fig. E3

LUMINANCE & CHROMINANCE SECTION

5. E-E LEVEL ADJSUTMENT

TP	ADJ.	MODE	INPUT
VIDEO OUT	VR3003	STOP	COLOUR BAR
TAPE	**M. EQ.**	**SPEC.**	
	OSCILLO-SCOPE	A=1.0±0.05Vp-p (75Ω Terminated)	

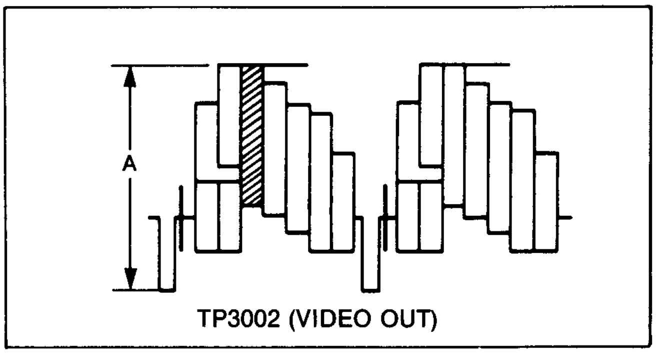


Fig. E4

6. AFC ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP8004	VR8007	STOP	
TAPE	**M. EQ.**	**SPEC.**	
	FREQ. COUNTER	623±15kHz	

(1) Connect the jumper wire among TP8002,TP8003 and TP8001 (GND).
(2) Connect the frequency counter to TP8004.
(3) Adjust the VR8007 so that the frequency becomes 623KHz +– 15KHz.

7. REC CHROMA LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
P5003-2 (GND) P5003-1 (HOT)	VR8001	REC/PLAY	COLOUR BAR (W/WHITE WINDOW)
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	OSCILLO-SCOPE	28±5mVp-p	

(1) Connect the oscilloscope to TP5003 (HOT) and TP5002 (GND).
(2) Eliminate luminance recording current by turning VR3002.
(3) Adjust VR8001 so that the Chrominance recording current becomes 28mV +– 5mVp–p.

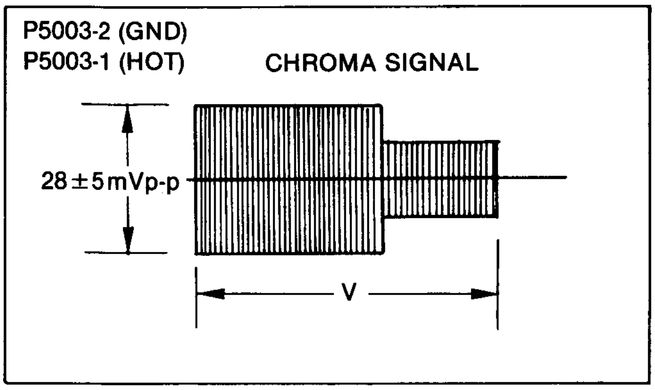


Fig. E5

8. LUMINANCE RECORDING CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
P5003-2 (GND) P5003-1 (HOT)	VR3002	REC/PLAY	VIDEO SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	OSCILLO-SCOPE	120mV±5mVp-p	

(1) Connect the oscilloscope to TP5003 (HOT) and TP5002 (GND).
(2) Adjust the VR3002 so that the luminance recording current becomes 120mV +– 5mVp–p.

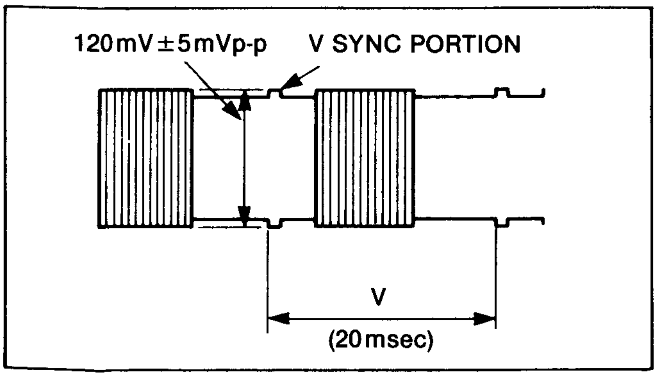


Fig. E6

9. LINE NOISE CANCEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3004	VR3001	SELF RECORDING	
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	OSCILLO-SCOPE	Minimum as possible	

(1) Record the video signal.
(2) Connect the oscilloscope to TP3004.
(3) Playback the just recorded portion.
(4) Adjust the VR3001 so that the level between sync tip and white peak becomes minimum as possible.

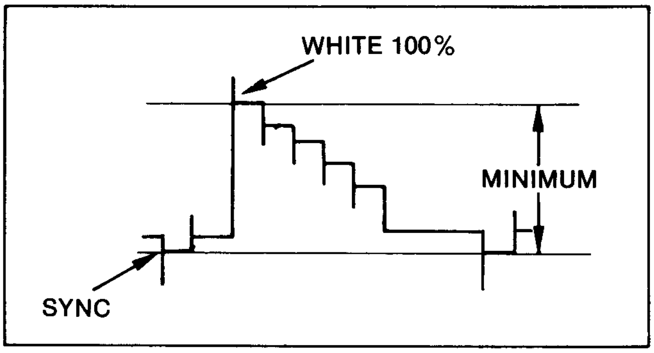


Fig. E7

10. VIDEO PLAYBACK LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
VIDEO OUT	VR3004	SELF RECORDING	COLOUR BAR
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	OSCILLO-SCOPE	A=1.0±0.05Vp-p	

(1) Record the colour bar and playback the just recorded portion.
(2) Connect the oscilloscope to video out.
(3) Adjust the VR3004 so that the out put level becomes 1.0V +– 0.05Vp–p.

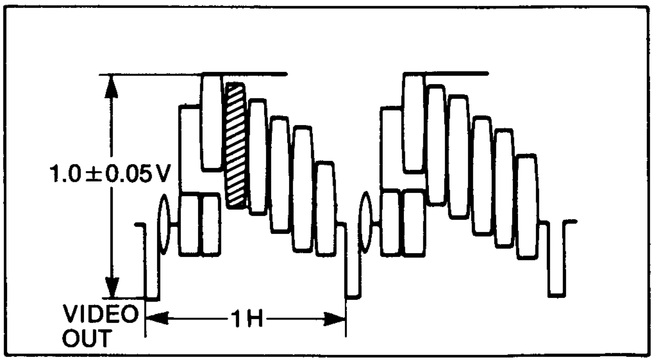


Fig. E8

11. HEAD AMP FREQUENCY RESPONSE ADJUSTMENT

TP	ADJ.	MODE	INPUT
VIDEO OUT	VR3005	SELF RECORDING	VIDEO SWEEP SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	VIDEO SWEEP/ OSCILLO-SCOPE	A: 0±2dB (80~125%)	

Note :
Edit switch should be "OFF"

(1) Set the video sweep generator as shown in Fig. E9.

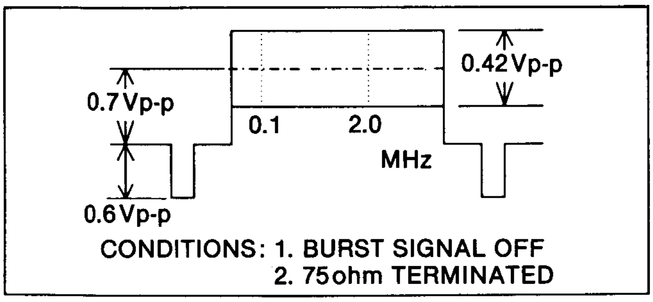


Fig. E9

(2) Record the sweep signal and playback just recorded portion.
(3) Adjust the VR3005 so that the level at 2MHz becomes 0 +− 2dB comparing with the level at 0.1MHz as shown in Fig. E10.

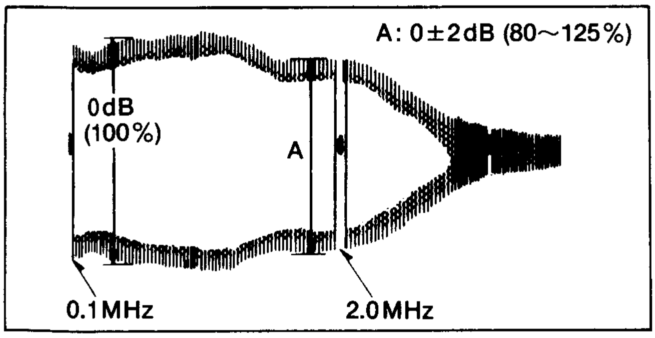


Fig. E10

AUDIO SECTION

12. AUDIO PLAYBACK LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
AUDIO OUT	VR4001	SELF RECORDING	1kHz AUDIO 0dB SIGNAL/ VIDEO SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	SIGNAL GENERATOR/ D.V.M.	−8.0dBV±1dB	

(1) Supply the audio signal (1KHz/−10dB Sine wave) to audio circuit through external microphone socket.
(2) Record the audio signal and playback just recorded portion.
(3) Adjust VR4001 so that the audio level becomes −8dBV +− 1dB.

13. AUDIO BIAS CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP4002 (HOT) TP4003 (GND)	VR4002	REC/PLAY	╳
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	D.V.M.	2.7mVrms±0.1mVrms	

Hi-Fi AUDIO SECTION

14. Hi-Fi AUDIO CARRIER FREQUENCY ADJUSTMENT

TP	ADJ.	MODE	INPUT
IC4502-3 (L) IC4502-30 (R)	VR4501 (L) VR4509 (R)	STOP	╳
TAPE	**M. EQ.**	**SPEC.**	
╳	FREQUENCY COUNTER	1400±10kHz (L) 1800±10kHz (R)	

15. AUDIO DEVIATION ADJUSTMENT

TP	ADJ.	MODE	INPUT
IC4502-5 (L) IC4502-28 (R)	VR4502 (L) VR4507 (R)	REC/PLAY	1kHz, −30dB (30mVp-p) AUDIO SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	SIGNAL GENERATOR/ D.V.M.	160mVp-p	

(1) Set the output (600 ohm terminated) of the signal generator to 1KHz/−30dB (30mVp−p)
(2) Adjust VR4502 to 160mVp−p at Pin5 of IC4502.
(3) Adjust VR4507 to 160mVp−p at Pin28 of IC4502.

16. Hi-Fi AUDIO RECORDING CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
P5503-2 (HOT) P5503-1 (GND)	VR4503	RECORDING	☒
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	OSCILLO-SCOPE	220±5mVp-p	

(1) Connect the oscilloscope to Pin2 of P5503(HOT) and Pin1 of P5503 (GND).
(2) Adjust the VR4503 so that the rec current becomes 220mV +- 5mVp-p.

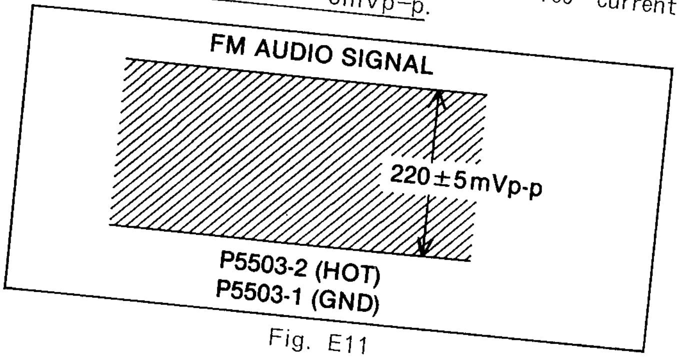


Fig. E11

17. AUDIO HEAD SWITCHNG SHIFTER ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP4506 TP2001	VR4510	PLAY	☒
TAPE	**M. EQ.**	**SPEC.**	
ALIGNMENT TAPE (VFJ8125H3F)	OSCILLO-SCOPE	$T=T2-\frac{(T2-T1)}{2}$msec	

(1) Playback the alignment tape (VFJ8125H3F).
(2) Connect the oscilloscope to TP4506 and TP2001.
(3) Adjust the VR4510 while listening to the stereo playback sound.
(4) Confirm the "T2" time when the abnormal sound just occurs during turning clockwise on VR4510.
(5) Confirm the "T1" time when the abnormal sound just occurs during turning counter clockwise on VR4510.
(6) Adjust VR4510 so that the falling edge "T" of audio head switch pulse becomes the centre portion of the both "T2" and "T1".

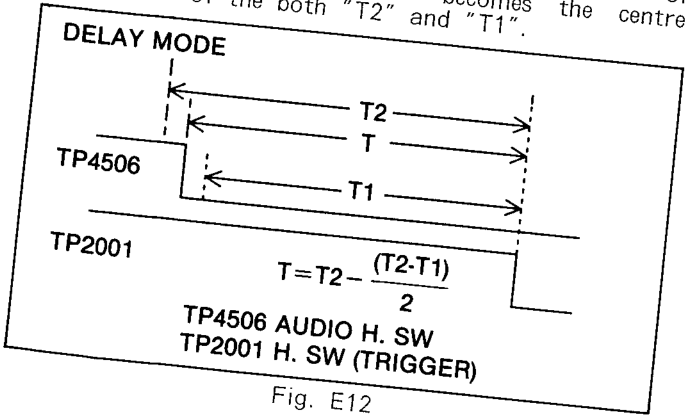


Fig. E12

18. AUDIO PLAYBACK LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
J3501-7 (L) J3501-8 (R)	VR4504 (L) VR4508 (R)	SELF RECORIDNG	SIGNAL GENERATOR (1kHz, −30dB)/ VIDEO SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	SIGNAL GENERATOR/ V.T.V.M.	E-E LEVEL=−8±−2dB (300mVrms~500mVrms). PLAYBACK LEVEL= E-E LEVEL ±0.05dB (±20mVrms)	

Note :
Before this adjustment, tape interchangeability Adjustment should be completed.

(1) Record the audio signal (1KHz/−30dB) and playback the just recorded portion.
(2) Adjust the VR4504 and VR4508 volumes respectively so that the level of the playback becomes E−E level +− 0.5dB (+− 20mVrms).

19. AUDIO MUTING ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP4507	VR4505	SELF RECORDING	1kHz, −10dB (316mVp-p) AUDIO SIG.
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	OSCILLO-SCOPE	DC LEVEL=2V	

Note :
Before this adjustment, tape interchangeability adjustment should be completed.

(1) Adjust the luminance rec current for 150mVp−p.
(2) Set the select switch to "Hi−Fi"
(3) Record the audio signal (1KHz/−30dB) and play back just recorded portion.
(4) Preadjust the VR4505 until the DC voltage is changed in to low level at TP4507.
(5) Then adjust slowly VR4505 so that the DC voltage comes at 2V as shown in Fig. E13
(6) Adjust the luminance rec current for 120mVp−p.

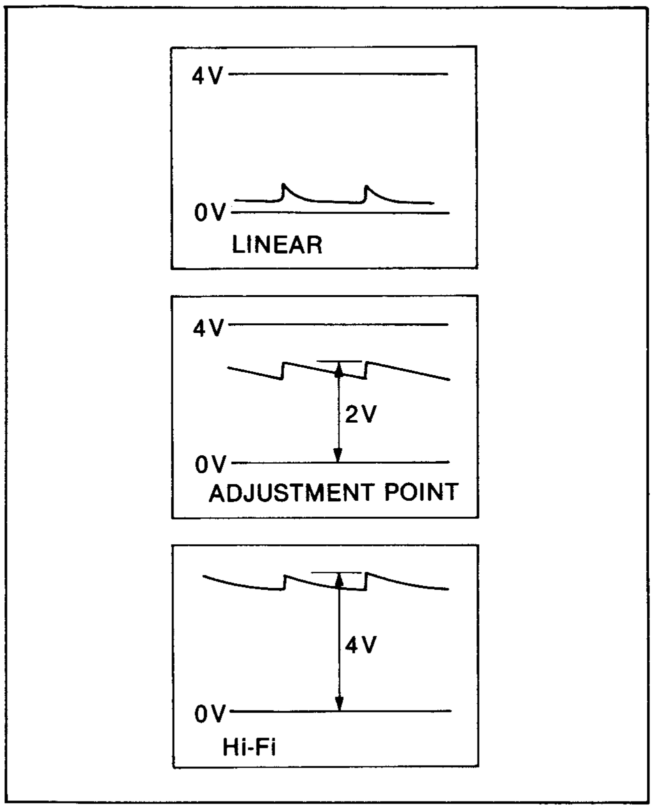

4V
0V
LINEAR
4V
2V
0V
ADJUSTMENT POINT
4V
0V
Hi-Fi

Fig. E13

SYSTEM CONTROL SECTION

20. UNDER CUT ADJUSTMENT

TP	ADJ.	MODE	INPUT
Pin 6 of P6011	VR6001	REC/PLAY	
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	OSCILLO-SCOPE/ DC POWER SUPPLY/ D.V.M.		

Note :

Do not connect AC adaptor, supply the DC voltage (10.5V +− 0.05V) to Pin1 of P1001 (HOT) and Pin2 of P1001 (GND).

Connect the Diode (MA165) Pin1 of P6011 for Cathode and Pin2 of P6011 for Anode to make Recording mode.

(1) Turn the Power SW to ON.
(2) Adjust the VR6001 so that the waveform is disappeared.

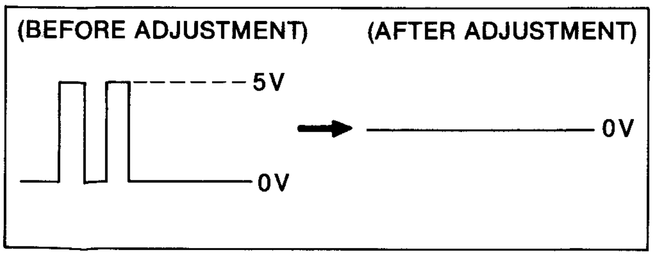

(BEFORE ADJUSTMENT)
(AFTER ADJUSTMENT)
5V
0V
0V

Fig. E14

21. CHARACTER POSITION ADJUSTMENT

TP	ADJ.	MODE	INPUT
VIEW FINDER	C6011	STOP	
TAPE	**M. EQ.**	**SPEC.**	
	VIEW FINDER	CHARACTER IS CENTRE	

(1) Connect the E.V.F. unit to the Main unit.
(2) Display the tape counter on the E.V.F.
(3) Adjust the C6011 so that the character comes centre.

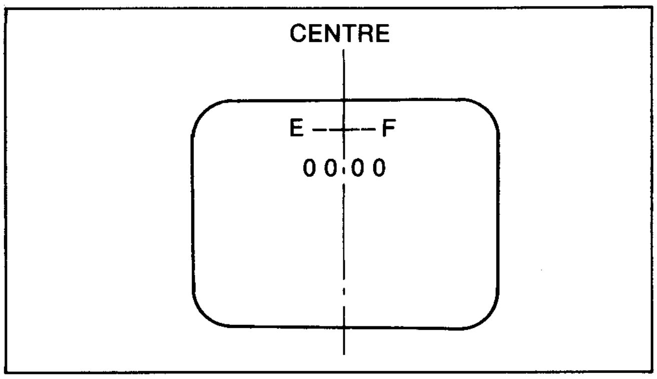
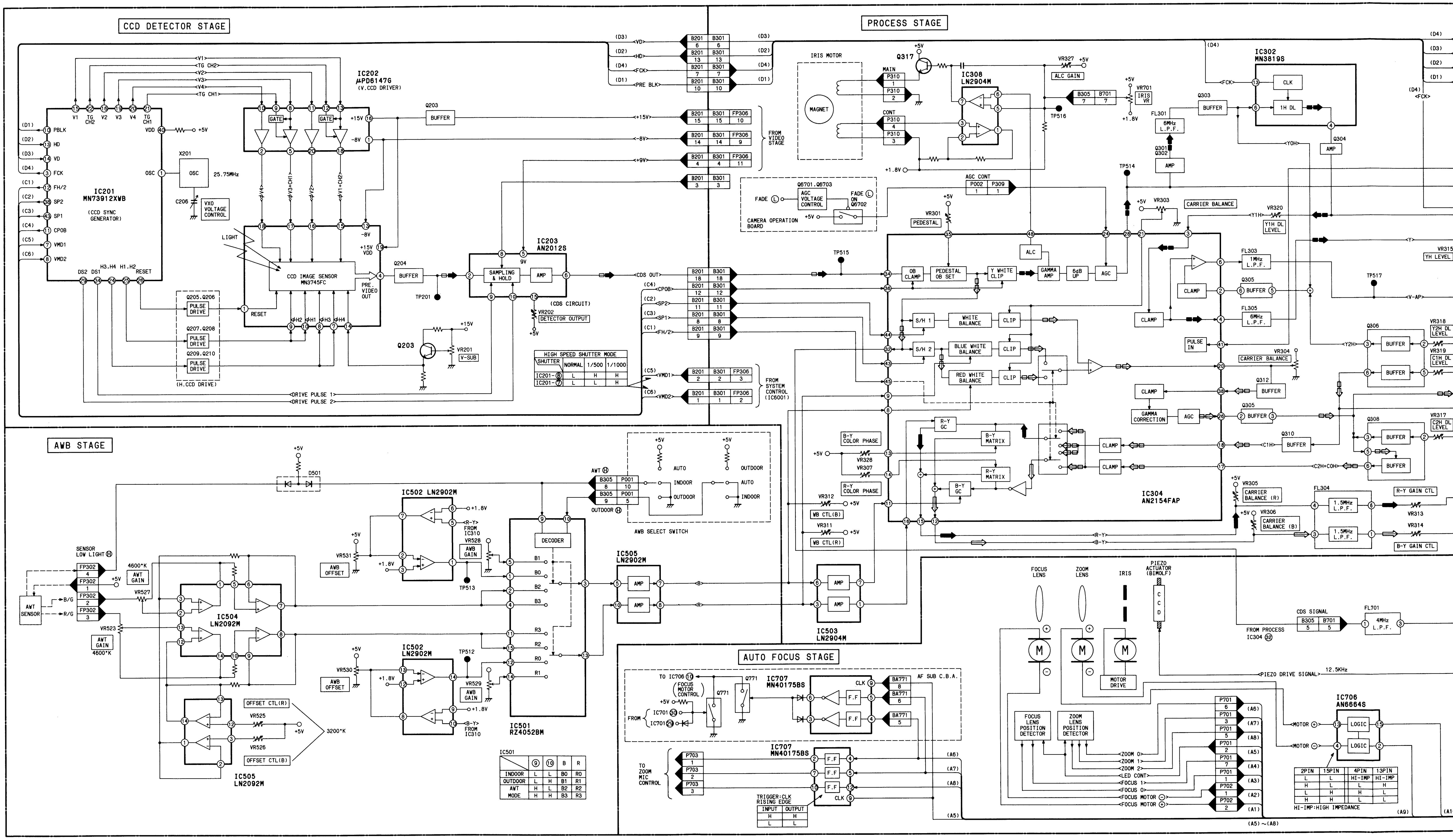

CENTRE
E
F
00 00

Fig. E15

SECTION 3
BLOCK DIAGRAM & SCHEMATIC DIAGRAM
3-1. CAMERA STAGE BLOCK DIAGRAM

◀■ LUMINANCE SIGNAL
◀□ PRE VIDEO SIGNAL
⇐■ CHROMINANCE SIGNAL
⇐□ B-Y/R-Y COMPOSITE SIGNAL
◀ R-Y SIGNAL
⇐ B-Y SIGNAL


CCD DETECTOR STAGE
IC201 MN73912XWB (CCD SYNC GENERATOR)
IC202 μPD6147G (V.CCD DRIVER)
CCD IMAGE SENSOR MN3745FC
IC203 AN2012S
SAMPLING & HOLD
AMP
(CDS CIRCUIT)
VR202 DETECTOR OUTPUT
Q203 BUFFER
Q204 BUFFER
Q203
VR201 V-SUB
X201 OSC 25.75MHz
VXO VOLTAGE CONTROL
Q205,Q206 PULSE DRIVE
Q207,Q208 PULSE DRIVE
Q209,Q210 PULSE DRIVE
(H.CCD DRIVE)
LIGHT
PRE. VIDEO OUT
DRIVE PULSE 1
DRIVE PULSE 2
FROM VIDEO STAGE
FROM SYSTEM CONTROL (IC6001)
PROCESS STAGE
IRIS MOTOR
MAGNET
Q317
IC308 LN2904M
ALC GAIN
VR701 IRIS VR
AGC CONT
Q6701,Q6703 AGC VOLTAGE CONTROL
FADE
CAMERA OPERATION BOARD
PEDESTAL
OB CLAMP
PEDESTAL OB SET
Y WHITE CLIP
GAMMA AMP
6dB UP
ALC
AGC
S/H 1
S/H 2
WHITE BALANCE
BLUE WHITE BALANCE
RED WHITE BALANCE
CLIP
R-Y GC
B-Y GC
B-Y MATRIX
R-Y MATRIX
B-Y COLOR PHASE
R-Y COLOR PHASE
WB CTL(B)
WB CTL(R)
IC304 AN2154FAP
IC302 MN3819S
CLK
1H DL
Q303 BUFFER
FL301 6MHz L.P.F.
Q301 Q302 AMP
Q304 AMP
CARRIER BALANCE
Y1H DL LEVEL
FL303 1MHz L.P.F.
FL305 6MHz L.P.F.
CLAMP
PULSE IN
GAMMA CORRECTION
Q305 BUFFER
Q312 BUFFER
Q310 BUFFER
FL304 1.5MHz L.P.F.
R-Y GAIN CTL
B-Y GAIN CTL
CARRIER BALANCE (R)
CARRIER BALANCE (B)
YH LEVEL
Y2H DL LEVEL
C1H DL LEVEL
C2H DL LEVEL
Q306 BUFFER
Q308 BUFFER
AWB STAGE
AWT SENSOR
SENSOR LOW LIGHT
AWT GAIN 4600°K
IC504 LN2092M
IC505 LN2092M
OFFSET CTL(R)
OFFSET CTL(B)
3200°K
IC502 LN2902M
AWB OFFSET
AWB GAIN
IC501 RZ4052BM
DECODER
IC505 LN2902M
IC503 LN2904M
D501
AWB SELECT SWITCH
AUTO
INDOOR
OUTDOOR
AUTO FOCUS STAGE
AF SUB C.B.A.
IC707 MN40175BS
F.F
TO ZOOM MIC CONTROL
FOCUS LENS
ZOOM LENS
IRIS
PIEZO ACTUATOR (BIMOLF)
MOTOR DRIVE
FOCUS LENS POSITION DETECTOR
ZOOM LENS POSITION DETECTOR
PIEZO DRIVE SIGNAL 12.5KHz
CDS SIGNAL
FL701 4MHz L.P.F.
FROM PROCESS IC304 ㉜
IC706 AN6664S
LOGIC
MOTOR ⊕
MOTOR ⊖

HIGH SPEED SHUTTER MODE			
SHUTTER	NORMAL	1/500	1/1000
IC201-⑧	L	H	H
IC201-⑦	L	L	H

IC501

	⑨	⑩	B	R
INDOOR	L	L	B0	R0
OUTDOOR	L	H	B1	R1
AWT MODE	H	L	B2	R2
	H	H	B3	R3

TRIGGER:CLK RISING EDGE

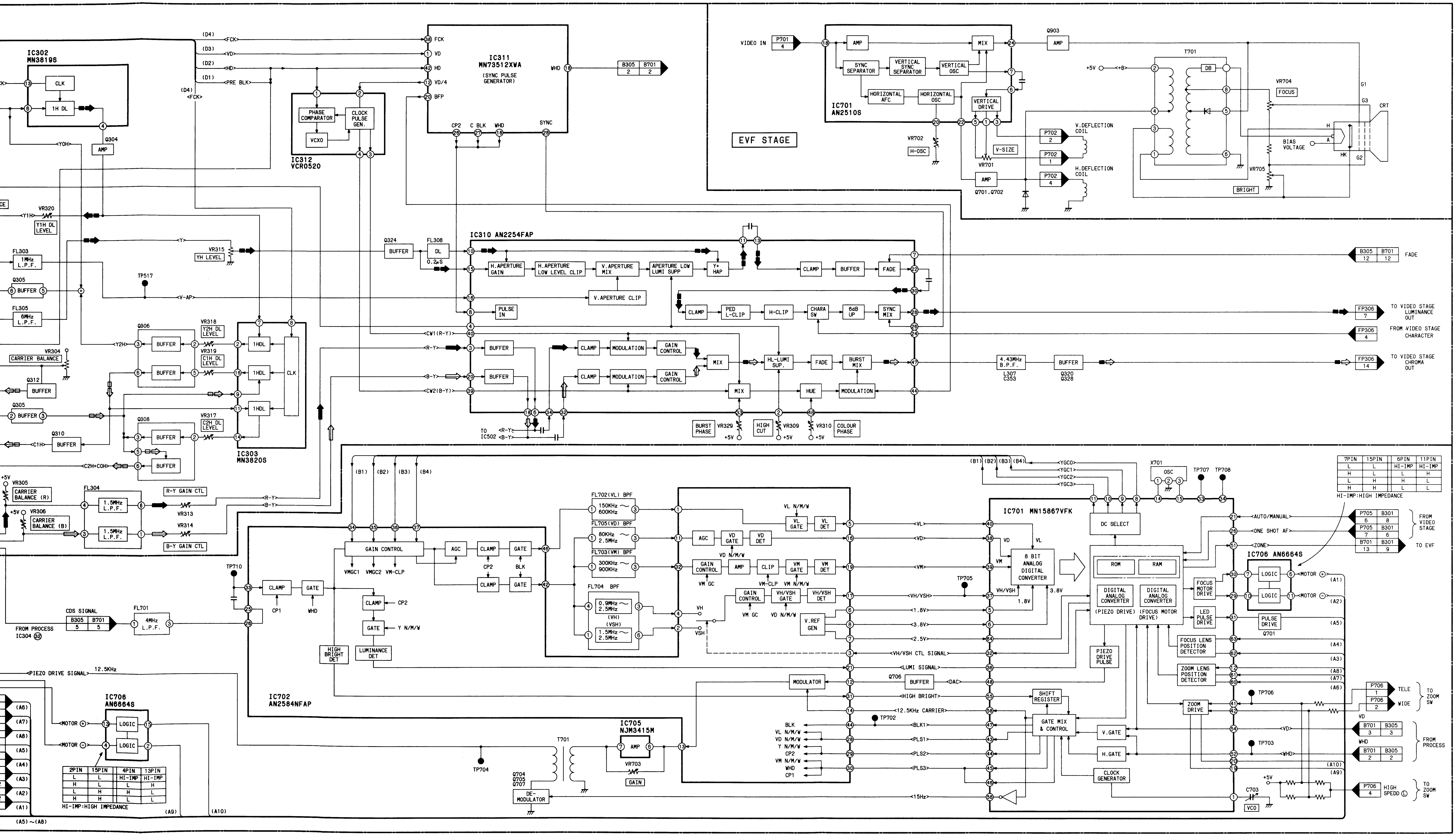
INPUT	OUTPUT
H	H
L	L

2PIN	15PIN	4PIN	13PIN
L	L	HI-IMP	HI-IMP
H	L	L	H
L	H	H	L
H	H	L	L

HI-IMP:HIGH IMPEDANCE

R-Y SIGNAL

B-Y SIGNAL


IC302 MN3819S
CLK
1H DL
Q304
AMP
IC312 VCO0520
PHASE COMPARATOR
CLOCK PULSE GEN.
VCXO
IC311 MN73512XWA
(SYNC PULSE GENERATOR)
FCK
VD
HD
VD/4
BFP
WHD
CP2
C BLK
SYNC
EVF STAGE
VIDEO IN
IC701 AN2510S
AMP
MIX
SYNC SEPARATOR
VERTICAL SYNC SEPARATOR
VERTICAL OSC
HORIZONTAL AFC
HORIZONTAL OSC
VERTICAL DRIVE
VR702
H-OSC
V-SIZE
VR701
Q701,Q702
Q903
T701
DB
V.DEFLECTION COIL
H.DEFLECTION COIL
VR704
FOCUS
BIAS VOLTAGE
VR705
BRIGHT
CRT
G1
G3
G2
HK
IC310 AN2254FAP
Q324
BUFFER
FL308
DL
H.APERTURE GAIN
H.APERTURE LOW LEVEL CLIP
V.APERTURE MIX
APERTURE LOW LUMI SUPP
Y+ HAP
CLAMP
FADE
V.APERTURE CLIP
PULSE IN
PED L-CLIP
H-CLIP
CHARA SW
6dB UP
SYNC MIX
MODULATION
GAIN CONTROL
HL-LUMI SUP.
BURST MIX
HUE
VR329
BURST PHASE
VR309
HIGH CUT
VR310
COLOUR PHASE
TO VIDEO STAGE LUMINANCE OUT
FROM VIDEO STAGE CHARACTER
TO VIDEO STAGE CHROMA OUT
4.43MHz B.P.F.
L307 C353
Q320 Q328
FADE
VR320
Y1H DL LEVEL
VR315
YH LEVEL
FL303
1MHz L.P.F.
Q305
TP517
FL305
6MHz L.P.F.
Q306
VR318
Y2H DL LEVEL
VR319
C1H DL LEVEL
VR304
CARRIER BALANCE
Q312
Q308
VR317
C2H DL LEVEL
Q310
IC303 MN3820S
1HDL
TO IC502
VR305
CARRIER BALANCE (R)
VR306
CARRIER BALANCE (B)
FL304
1.5MHz L.P.F.
R-Y GAIN CTL
VR313
VR314
B-Y GAIN CTL
TP710
CDS SIGNAL
FL701
4MHz L.P.F.
FROM PROCESS IC304
PIEZO DRIVE SIGNAL
12.5KHz
IC706 AN6664S
LOGIC
MOTOR
IC702 AN2584NFAP
GAIN CONTROL
AGC
GATE
VMGC1 VMGC2 VM-CLIP
HIGH BRIGHT DET
LUMINANCE DET
FL702(VL) BPF
FL705(VD) BPF
FL703(VM) BPF
FL704 BPF
150KHz 600KHz
80KHz 2.5MHz
300KHz 900KHz
0.9MHz 2.5MHz
1.5MHz 2.5MHz
VL GATE
VL DET
VD GATE
VD DET
VM GATE
VM DET
CLIP
VH/VSH GATE
VH/VSH DET
V.REF GEN
MODULATOR
TP704
T701
IC705 NJM3415M
VR703
GAIN
Q704 Q705 Q707
DE-MODULATOR
TP702
Q706
IC701 MN15867VFK
X701
OSC
TP707
TP708
DC SELECT
8 BIT ANALOG DIGITAL CONVERTER
ROM
RAM
DIGITAL ANALOG CONVERTER (PIEZO DRIVE)
DIGITAL ANALOG CONVERTER (FOCUS MOTOR DRIVE)
FOCUS MOTOR DRIVE
LED PULSE DRIVE
PULSE DRIVE
Q701
PIEZO DRIVE PULSE
FOCUS LENS POSITION DETECTOR
ZOOM LENS POSITION DETECTOR
SHIFT REGISTER
GATE MIX & CONTROL
ZOOM DRIVE
V.GATE
H.GATE
CLOCK GENERATOR
C703
VCO
TP705
TP706
TP703
IC706 AN6664S
FROM VIDEO STAGE
TO EVF
TO ZOOM SW
TELE
WIDE
FROM PROCESS
HIGH SPEDD

2PIN	15PIN	4PIN	13PIN
L	L	HI-IMP	HI-IMP
H	L	L	H
L	H	H	L
H	H	L	L

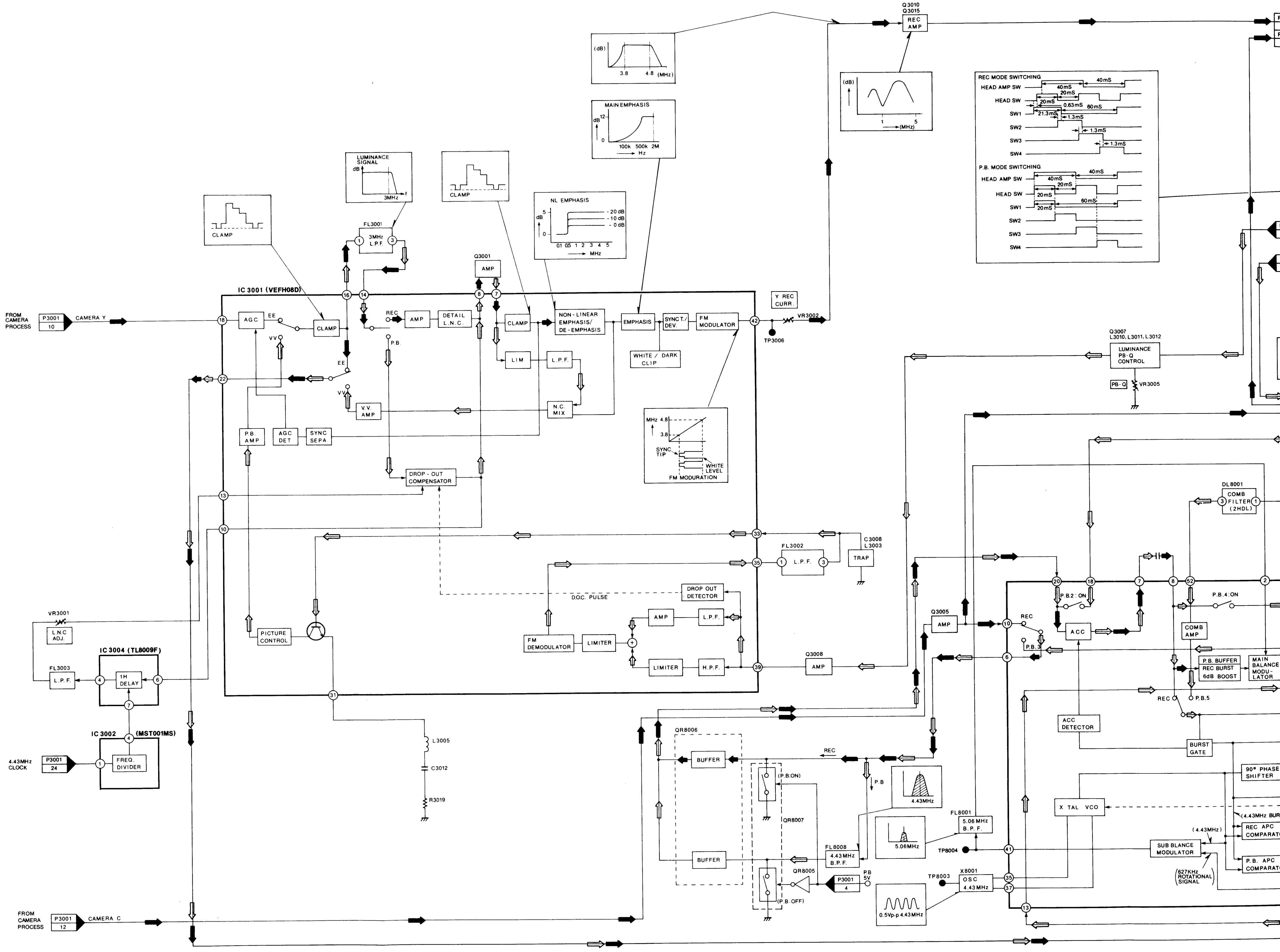
HI-IMP:HIGH IMPEDANCE

7PIN	15PIN	6PIN	11PIN
L	L	HI-IMP	HI-IMP
H	L	L	H
L	H	H	L
H	H	L	L

HI-IMP:HIGH IMPEDANCE

3-2. LUMINANCE & CHROMINANCE BLOCK DIAGRAM

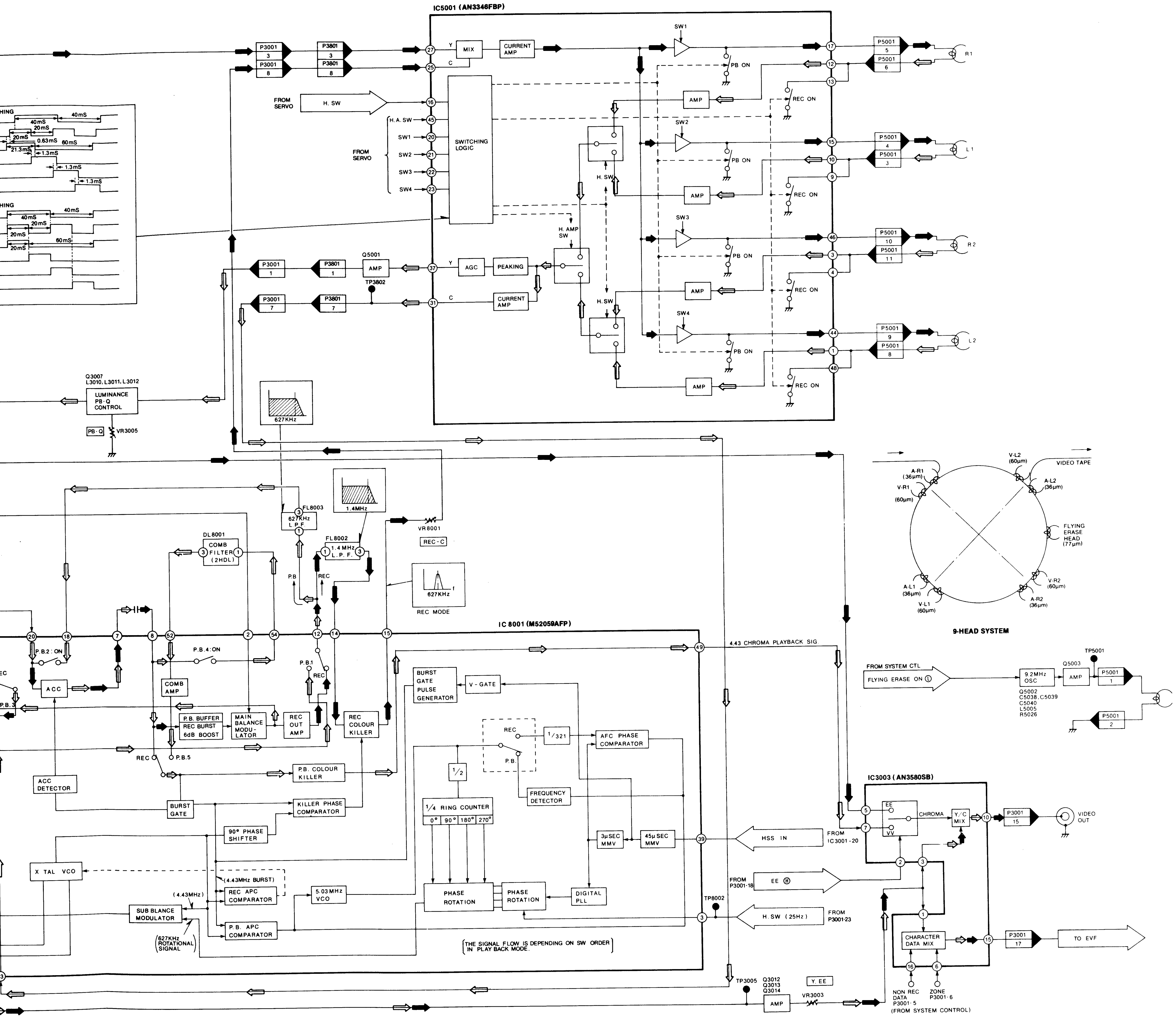
MAIN SIGNAL PATH IN REC MODE



FROM CAMERA PROCESS
P3001 10
CAMERA Y
IC 3001 (VEFH08D)
AGC
EE
CLAMP
REC
AMP
DETAIL L.N.C.
PB
CLAMP
NON-LINEAR EMPHASIS/ DE-EMPHASIS
EMPHASIS
SYNC T./ DEV.
FM MODULATOR
LIM
L.P.F.
WHITE / DARK CLIP
V.V. AMP
N.C. MIX
P.B. AMP
AGC DET
SYNC SEPA
DROP-OUT COMPENSATOR
PICTURE CONTROL
D.O.C. PULSE
DROP OUT DETECTOR
FM DEMODULATOR
LIMITER
H.P.F.
Q3001
FL3001
3MHz L.P.F.
LUMINANCE SIGNAL
3MHz
NL EMPHASIS
MAIN EMPHASIS
100k 500k 2M Hz
FM MODURATION
SYNC TIP
WHITE LEVEL
Y REC CURR.
VR3002
TP3006
Q3010 Q3015
REC AMP
FL3002
L.P.F.
C3008 L3003
TRAP
Q3008
AMP
L3005
C3012
R3019
VR3001
L.N.C ADJ.
FL3003
L.P.F.
IC 3004 (TL8009F)
1H DELAY
IC 3002 (MST001MS)
FREQ. DIVIDER
4.43MHz CLOCK
P3001 24
FROM CAMERA PROCESS
P3001 12
CAMERA C
REC MODE SWITCHING
HEAD AMP SW
HEAD SW
SW1
SW2
SW3
SW4
P.B. MODE SWITCHING
40mS
20mS
0.63mS
60mS
21.3mS
1.3mS
Q3007 L3010, L3011, L3012
LUMINANCE PB-Q CONTROL
PB-Q
VR3005
DL8001
COMB FILTER (2HDL)
Q3005
AMP
P.B.2: ON
P.B.3
P.B.4: ON
ACC
COMB AMP
P.B. BUFFER
REC BURST 6dB BOOST
MAIN BALANCE MODU-LATOR
P.B.5
ACC DETECTOR
BURST GATE
90° PHASE SHIFTER
X TAL VCO
4.43MHz
REC APC COMPARAT
P.B. APC COMPARAT
SUB BLANCE MODULATOR
627KHz ROTATIONAL SIGNAL
QR8006
BUFFER
QR8007
(P.B:ON)
(P.B OFF)
QR8005
FL8008
4.43MHz B.P.F.
FL8001
5.06MHz B.P.F.
5.06MHz
TP8004
TP8003
X8001
OSC 4.43MHz
0.5Vp-p 4.43MHz
P3001 4
PB 5V

Back Page:
CAMERA STAGE Section

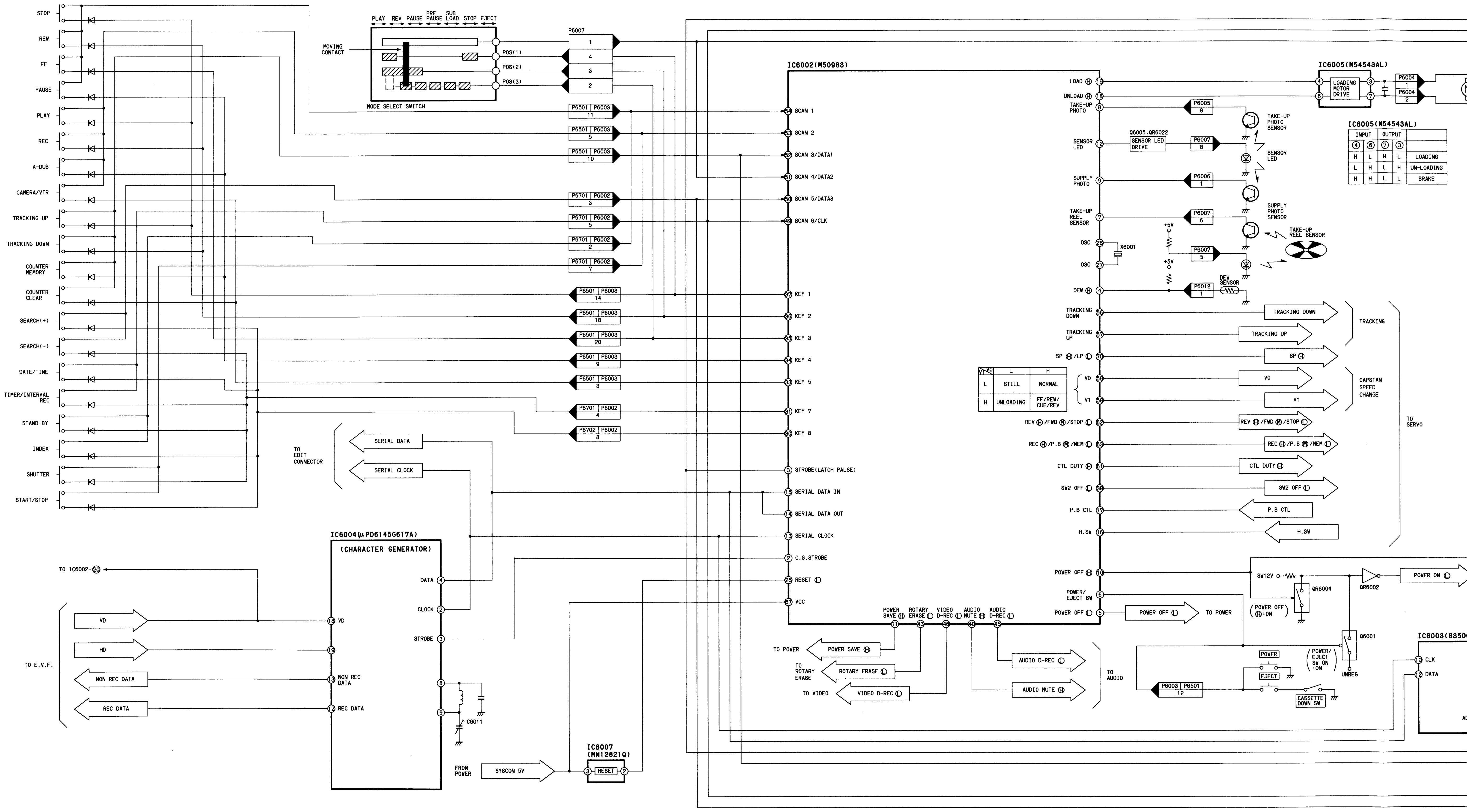
N SIGNAL PATH IN REC MODE. ⇦ MAIN SIGNAL PATH IN PLAYBACK MODE.



IC5001 (AN3346FBP)
P3001 3
P3001 8
P3801 3
P3801 8
MIX
CURRENT AMP
SW1
SW2
SW3
SW4
PB ON
REC ON
AMP
FROM SERVO
H. SW
H. A. SW
SWITCHING LOGIC
H. AMP SW
AGC
PEAKING
Q5001
TP3802
P3001 1
P3801 1
P3001 7
P3801 7
P5001 5
P5001 6
P5001 4
P5001 3
P5001 10
P5001 11
P5001 9
P5001 8
R1
L1
R2
L2
40mS
20mS
0.63mS
80mS
21.3mS
1.3mS
60mS
Q3007
L3010, L3011, L3012
LUMINANCE PB·Q CONTROL
PB·Q
VR3005
627KHz
1.4MHz
FL8003
627KHz L.P.F
FL8002
1.4 MHz L. P. F.
VR8001
REC-C
DL8001
COMB FILTER (2HDL)
REC MODE
P.B
REC
IC 8001 (M52059AFP)
4.43 CHROMA PLAYBACK SIG.
P.B 2 : ON
P.B. 4 : ON
P.B. 1
P.B. 3
P.B. 5
ACC
COMB AMP
P.B. BUFFER
REC BURST 6dB BOOST
MAIN BALANCE MODULATOR
REC OUT AMP
REC COLOUR KILLER
BURST GATE PULSE GENERATOR
V-GATE
1/321
AFC PHASE COMPARATOR
1/2
FREQUENCY DETECTOR
1/4 RING COUNTER
0° 90° 180° 270°
ACC DETECTOR
P.B. COLOUR KILLER
BURST GATE
KILLER PHASE COMPARATOR
90° PHASE SHIFTER
3μSEC MMV
45μSEC MMV
X TAL VCO
(4.43MHz BURST)
REC APC COMPARATOR
5.03MHz VCO
PHASE ROTATION
PHASE ROTATION
DIGITAL PLL
(4.43MHz)
SUB BLANCE MODULATOR
(627KHz ROTATIONAL SIGNAL)
P.B. APC COMPARATOR
THE SIGNAL FLOW IS DEPENDING ON SW ORDER IN PLAY BACK MODE.
TP8002
HSS IN
FROM IC3001-20
EE Ⓗ
FROM P3001-18
H. SW (25Hz)
FROM P3001-23
TP3005
Q3012 Q3013 Q3014
AMP
Y. EE
VR3003
IC3003 (AN3580SB)
EE
VV
CHROMA
Y/C MIX
P3001 15
VIDEO OUT
CHARACTER DATA MIX
P3001 17
TO EVF
NON REC DATA P3001-5
ZONE P3001-6
(FROM SYSTEM CONTROL)
A-R1 (36μm)
V-R1 (60μm)
V-L2 (60μm)
A-L2 (36μm)
VIDEO TAPE
FLYING ERASE HEAD (77μm)
V-R2 (60μm)
A-R2 (36μm)
A-L1 (36μm)
V-L1 (60μm)
FROM SYSTEM CTL
FLYING ERASE ON Ⓛ
9.2MHz OSC
Q5003
TP5001
P5001 1
P5001 2
Q5002
C5038, C5039
C5040
L5005
R5026
FLYING ERASE HEAD

9-HEAD SYSTEM

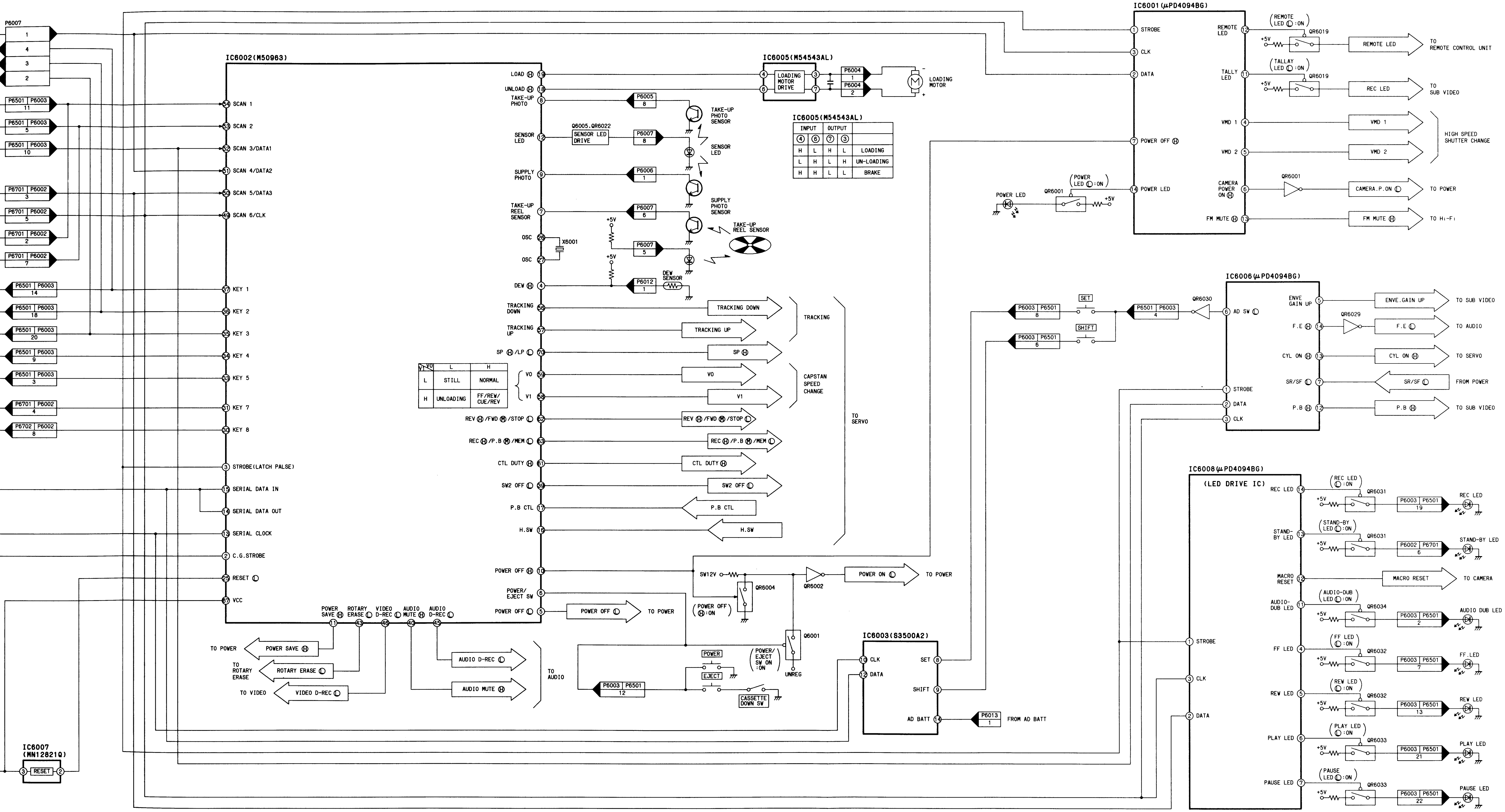
3-3. SYSTEM CONTROL BLOCK DIAGRAM


STOP
REW
FF
PAUSE
PLAY
REC
A-DUB
CAMERA/VTR
TRACKING UP
TRACKING DOWN
COUNTER MEMORY
COUNTER CLEAR
SEARCH(+)
SEARCH(-)
DATE/TIME
TIMER/INTERVAL REC
STAND-BY
INDEX
SHUTTER
START/STOP
PLAY REV PAUSE PRE PAUSE SUB LOAD STOP EJECT
MOVING CONTACT
MODE SELECT SWITCH
POS(1)
POS(2)
POS(3)
P6007
P6501 P6003
P6701 P6002
P6702 P6002
IC6002(M50963)
SCAN 1
SCAN 2
SCAN 3/DATA1
SCAN 4/DATA2
SCAN 5/DATA3
SCAN 6/CLK
KEY 1
KEY 2
KEY 3
KEY 4
KEY 5
KEY 7
KEY 8
STROBE(LATCH PALSE)
SERIAL DATA IN
SERIAL DATA OUT
SERIAL CLOCK
C.G.STROBE
RESET Ⓛ
VCC
LOAD Ⓗ
UNLOAD Ⓗ
TAKE-UP PHOTO
SENSOR LED
SUPPLY PHOTO
TAKE-UP REEL SENSOR
OSC
DEW Ⓗ
TRACKING DOWN
TRACKING UP
SP Ⓗ/LP Ⓛ
V0
V1
REV Ⓗ/FWD Ⓜ/STOP Ⓛ
REC Ⓗ/P.B Ⓜ/MEM Ⓛ
CTL DUTY Ⓗ
SW2 OFF Ⓛ
P.B CTL
H.SW
POWER OFF Ⓗ
POWER/EJECT SW
POWER OFF Ⓛ
POWER SAVE Ⓗ
ROTARY ERASE Ⓛ
VIDEO D-REC Ⓛ
AUDIO MUTE Ⓗ
AUDIO D-REC Ⓛ
IC6005(M54543AL)
LOADING MOTOR DRIVE
P6004
P6005
P6006
P6012
Q6005.QR6022 SENSOR LED DRIVE
TAKE-UP PHOTO SENSOR
SENSOR LED
SUPPLY PHOTO SENSOR
TAKE-UP REEL SENSOR
X6001
+5V
DEW SENSOR
TRACKING
CAPSTAN SPEED CHANGE
TO SERVO
SP Ⓗ
CTL DUTY Ⓗ
SW2 OFF Ⓛ
SW12V
QR6004
QR6002
POWER ON Ⓛ
(POWER OFF Ⓗ:ON)
TO POWER
Q6001
UNREG
POWER
EJECT
(POWER/EJECT SW ON :ON)
CASSETTE DOWN SW
P6003 P6501
IC6003(S350
CLK
DATA
TO POWER
TO ROTARY ERASE
TO VIDEO
TO AUDIO
SERIAL DATA
SERIAL CLOCK
TO EDIT CONNECTOR
IC6004(μPD6145G617A)
(CHARACTER GENERATOR)
DATA
CLOCK
STROBE
TO IC6002-⑳
VD
HD
NON REC DATA
REC DATA
TO E.V.F.
C6011
FROM POWER
SYSCON 5V
IC6007 (MN12821Q)
RESET

IC6005(M54543AL)

INPUT		OUTPUT		
④	⑥	⑦	③	
H	L	H	L	LOADING
L	H	L	H	UN-LOADING
H	H	L	L	BRAKE

V1 \ V0	L	H
L	STILL	NORMAL
H	UNLOADING	FF/REW/CUE/REV


IC6002(M50963)
IC6001(μPD4094BG)
IC6005(M54543AL)
LOADING MOTOR DRIVE
LOADING MOTOR
IC6006(μPD4094BG)
IC6008(μPD4094BG)
(LED DRIVE IC)
IC6003(S3500A2)
IC6007 (MN12821Q)
RESET
P6007
SCAN 1
SCAN 2
SCAN 3/DATA1
SCAN 4/DATA2
SCAN 5/DATA3
SCAN 6/CLK
KEY 1
KEY 2
KEY 3
KEY 4
KEY 5
KEY 7
KEY 8
STROBE(LATCH PALSE)
SERIAL DATA IN
SERIAL DATA OUT
SERIAL CLOCK
C.G.STROBE
RESET Ⓛ
VCC
LOAD Ⓗ
UNLOAD Ⓗ
TAKE-UP PHOTO
SENSOR LED
SUPPLY PHOTO
TAKE-UP REEL SENSOR
OSC
X6001
DEW Ⓗ
DEW SENSOR
Q6005.QR6022
SENSOR LED DRIVE
TAKE-UP PHOTO SENSOR
SENSOR LED
SUPPLY PHOTO SENSOR
TAKE-UP REEL SENSOR
TRACKING DOWN
TRACKING UP
SP Ⓗ/LP Ⓛ
V0
V1
REV Ⓗ/FWD Ⓜ/STOP Ⓛ
REC Ⓗ/P.B Ⓜ/MEM Ⓛ
CTL DUTY Ⓗ
SW2 OFF Ⓛ
P.B CTL
H.SW
TRACKING
CAPSTAN SPEED CHANGE
TO SERVO
POWER OFF Ⓗ
POWER/EJECT SW
POWER OFF Ⓛ
TO POWER
SW12V
QR6004
QR6002
POWER ON Ⓛ
(POWER OFF Ⓗ:ON)
Q6001
UNREG
POWER
EJECT
(POWER/EJECT SW ON :ON)
CASSETTE DOWN SW
POWER SAVE Ⓗ
ROTARY ERASE Ⓛ
VIDEO D-REC Ⓛ
AUDIO MUTE Ⓗ
AUDIO D-REC Ⓛ
TO ROTARY ERASE
TO VIDEO
TO AUDIO
STROBE
CLK
DATA
POWER OFF Ⓗ
POWER LED
QR6001
(POWER LED Ⓛ:ON)
+5V
REMOTE LED
TALLY LED
VMD 1
VMD 2
CAMERA POWER ON Ⓗ
FM MUTE Ⓗ
(REMOTE LED Ⓛ:ON)
(TALLAY LED Ⓛ:ON)
QR6019
TO REMOTE CONTROL UNIT
REC LED
TO SUB VIDEO
HIGH SPEED SHUTTER CHANGE
CAMERA.P.ON Ⓛ
TO POWER
TO Hi-Fi
SET
SHIFT
AD BATT
P6013
FROM AD BATT
QR6030
QR6029
AD SW Ⓛ
ENVE GAIN UP
F.E Ⓗ
CYL ON Ⓗ
SR/SF Ⓛ
P.B Ⓗ
ENVE.GAIN UP
TO SUB VIDEO
TO AUDIO
TO SERVO
FROM POWER
REC LED
STAND-BY LED
MACRO RESET
AUDIO-DUB LED
FF LED
REW LED
PLAY LED
PAUSE LED
QR6031
QR6032
QR6033
QR6034
TO CAMERA
AUDIO DUB LED
FF.LED
P6501
P6003
P6701
P6002
P6702
P6004
P6005
P6006
P6012

IC6005(M54543AL)

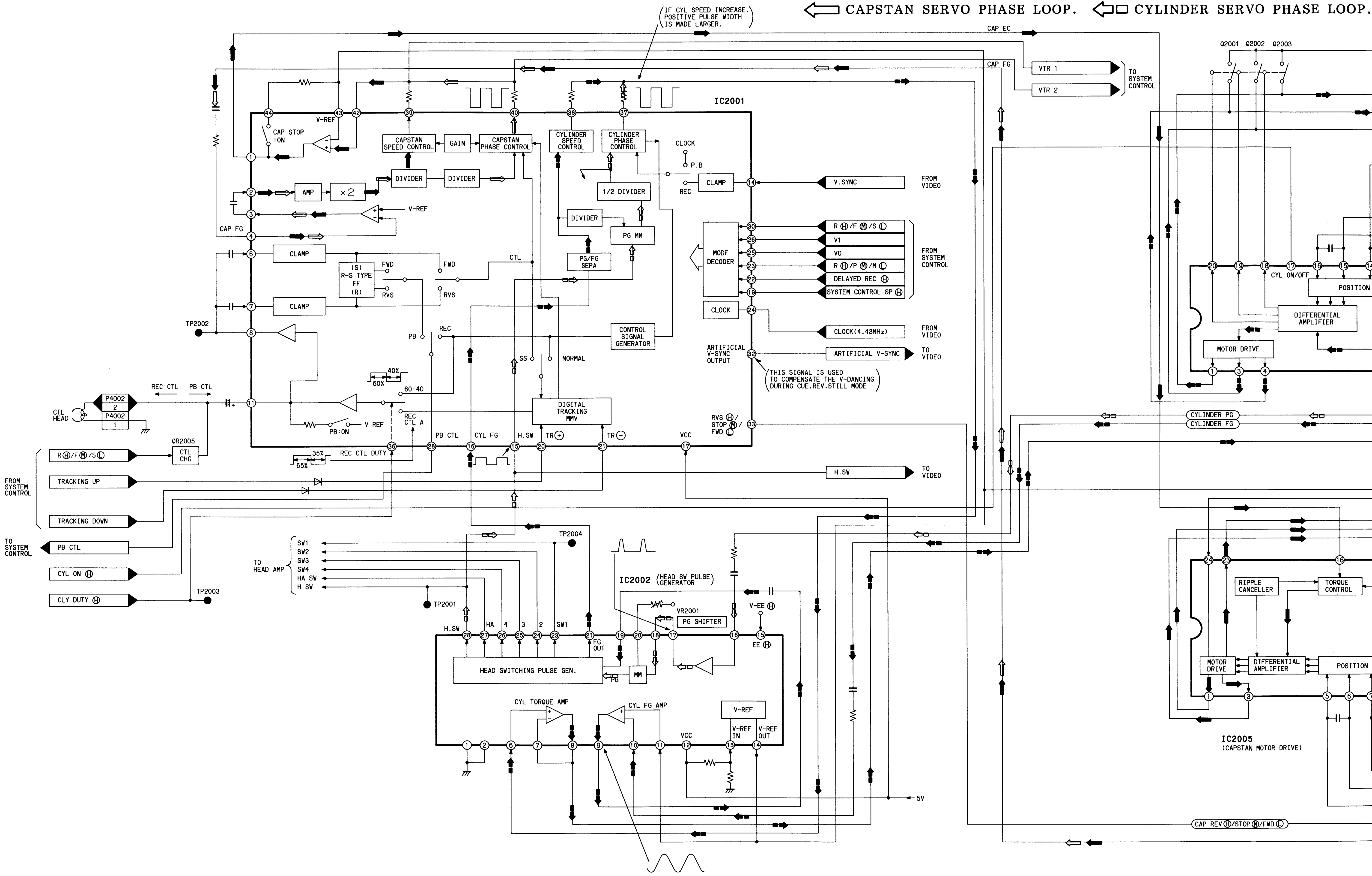
INPUT		OUTPUT		
④	⑥	⑦	③	
H	L	H	L	LOADING
L	H	L	H	UN-LOADING
H	H	L	L	BRAKE

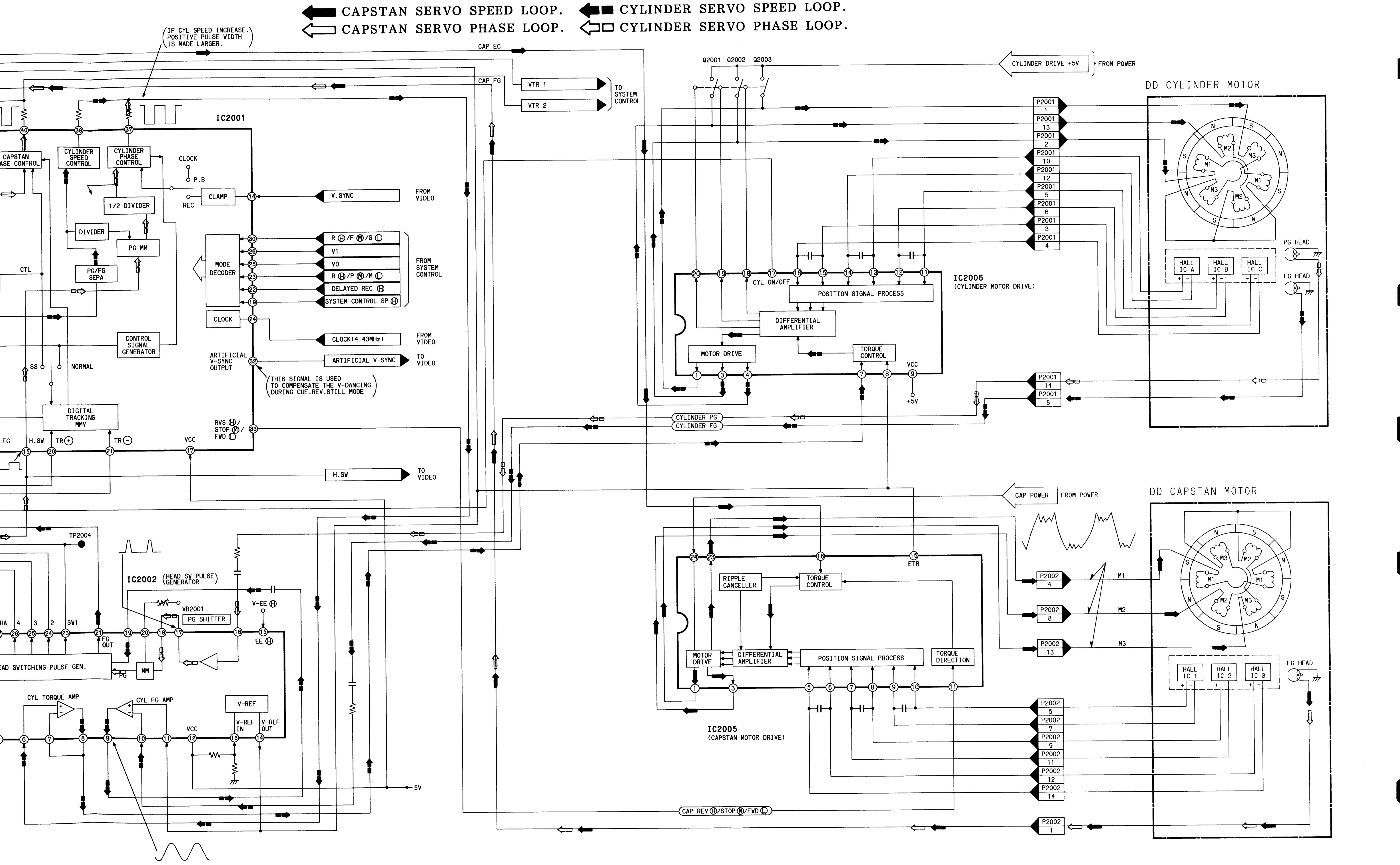
V1 \ V0	L	H
L	STILL	NORMAL
H	UNLOADING	FF/REW/ CUE/REV

Next Page:
SERVO Section

3-4. SERVO BLOCK DIAGRAM

CAPSTAN SERVO SPEED LOOP.
CAPSTAN SERVO PHASE LOOP.
CYLINDER SERVO SPEED LOOP.
CYLINDER SERVO PHASE LOOP.

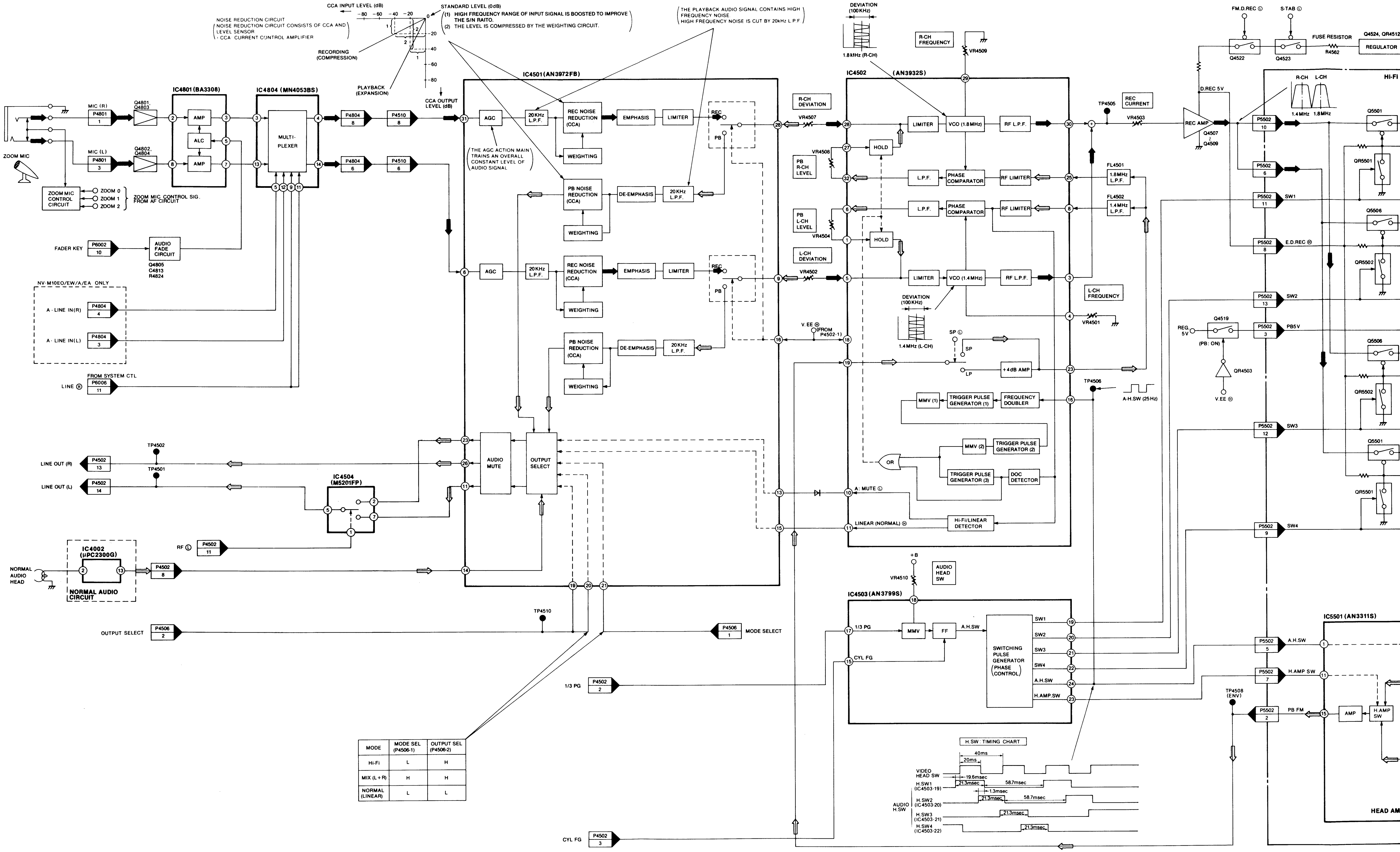

IF CYL SPEED INCREASE. POSITIVE PULSE WIDTH IS MADE LARGER.
CAP EC
CAP FG
VTR 1
VTR 2
TO SYSTEM CONTROL
Q2001 Q2002 Q2003
IC2001
V-REF
CAP STOP :ON
CAPSTAN SPEED CONTROL
GAIN
CAPSTAN PHASE CONTROL
CYLINDER SPEED CONTROL
CYLINDER PHASE CONTROL
CLOCK
P.B
REC
CLAMP
DIVIDER
DIVIDER
AMP
×2
V-REF
1/2 DIVIDER
DIVIDER
PG MM
PG/FG SEPA
CAP FG
CLAMP
(S) R-S TYPE FF (R)
FWD
RVS
FWD
RVS
CTL
CLAMP
TP2002
PB
REC
CONTROL SIGNAL GENERATOR
SS
NORMAL
40%
60%
60:40
REC CTL A
V REF
PB:ON
DIGITAL TRACKING MMV
PB CTL
CYL FG
H.SW
TR⊕
TR⊖
VCC
35%
65%
REC CTL DUTY
REC CTL
PB CTL
CTL HEAD
P4002 2
P4002 1
QR2005
CTL CHG
V.SYNC
FROM VIDEO
MODE DECODER
R Ⓗ/F Ⓜ/S Ⓛ
V1
V0
R Ⓗ/P Ⓜ/M Ⓛ
DELAYED REC Ⓗ
SYSTEM CONTROL SP Ⓗ
FROM SYSTEM CONTROL
CLOCK
CLOCK(4.43MHz)
FROM VIDEO
ARTIFICIAL V-SYNC OUTPUT
ARTIFICIAL V-SYNC
TO VIDEO
THIS SIGNAL IS USED TO COMPENSATE THE V-DANCING DURING CUE.REV.STILL MODE
RVS Ⓗ/ STOP Ⓜ/ FWD Ⓛ
H.SW
TO VIDEO
FROM SYSTEM CONTROL
R Ⓗ/F Ⓜ/S Ⓛ
TRACKING UP
TRACKING DOWN
TO SYSTEM CONTROL
PB CTL
CYL ON Ⓗ
CLY DUTY Ⓗ
TP2003
TO HEAD AMP
SW1
SW2
SW3
SW4
HA SW
H SW
TP2004
TP2001
IC2002 (HEAD SW PULSE GENERATOR)
VR2001
PG SHIFTER
V-EE Ⓗ
EE Ⓗ
H.SW
HA
4
3
2
SW1
FG OUT
HEAD SWITCHING PULSE GEN.
PG
MM
CYL TORQUE AMP
CYL FG AMP
V-REF
V-REF IN
V-REF OUT
VCC
5V
CYL ON/OFF
POSITION
DIFFERENTIAL AMPLIFIER
MOTOR DRIVE
CYLINDER PG
CYLINDER FG
RIPPLE CANCELLER
TORQUE CONTROL
MOTOR DRIVE
DIFFERENTIAL AMPLIFIER
POSITION
IC2005 (CAPSTAN MOTOR DRIVE)
CAP REV Ⓗ/STOP Ⓜ/FWD Ⓛ


CAPSTAN SERVO SPEED LOOP.
CAPSTAN SERVO PHASE LOOP.
CYLINDER SERVO SPEED LOOP.
CYLINDER SERVO PHASE LOOP.
IF CYL SPEED INCREASE. POSITIVE PULSE WIDTH IS MADE LARGER.
CAP EC
CAP FG
VTR 1
VTR 2
TO SYSTEM CONTROL
IC2001
CAPSTAN PHASE CONTROL
CYLINDER SPEED CONTROL
CYLINDER PHASE CONTROL
CLOCK
P.B
REC
CLAMP
V.SYNC
FROM VIDEO
1/2 DIVIDER
DIVIDER
PG MM
PG/FG SEPA
CTL
MODE DECODER
R Ⓗ/F Ⓜ/S Ⓛ
V1
V0
R Ⓗ/P Ⓜ/M Ⓛ
DELAYED REC Ⓗ
SYSTEM CONTROL SP Ⓗ
FROM SYSTEM CONTROL
CLOCK
CLOCK(4.43MHz)
FROM VIDEO
CONTROL SIGNAL GENERATOR
SS
NORMAL
ARTIFICIAL V-SYNC OUTPUT
ARTIFICIAL V-SYNC
TO VIDEO
THIS SIGNAL IS USED TO COMPENSATE THE V-DANCING DURING CUE.REV.STILL MODE
DIGITAL TRACKING MMV
RVS Ⓗ/ STOP Ⓜ/ FWD Ⓛ
FG
H.SW
TR⊕
TR⊖
VCC
H.SW
TO VIDEO
TP2004
IC2002 (HEAD SW PULSE GENERATOR)
VR2001
PG SHIFTER
V-EE Ⓗ
EE Ⓗ
HA
4
3
2
SW1
FG OUT
HEAD SWITCHING PULSE GEN.
FG
MM
CYL TORQUE AMP
CYL FG AMP
V-REF
V-REF IN
V-REF OUT
VCC
5V
Q2001
Q2002
Q2003
CYLINDER DRIVE +5V
FROM POWER
DD CYLINDER MOTOR
P2001 1
P2001 13
P2001 2
P2001 10
P2001 12
P2001 5
P2001 6
P2001 3
P2001 4
P2001 14
P2001 8
N
S
M1
M2
M3
PG HEAD
FG HEAD
HALL IC A
HALL IC B
HALL IC C
CYL ON/OFF
POSITION SIGNAL PROCESS
IC2006 (CYLINDER MOTOR DRIVE)
DIFFERENTIAL AMPLIFIER
MOTOR DRIVE
TORQUE CONTROL
VCC
+5V
CYLINDER PG
CYLINDER FG
CAP POWER
FROM POWER
DD CAPSTAN MOTOR
ETR
RIPPLE CANCELLER
TORQUE CONTROL
MOTOR DRIVE
DIFFERENTIAL AMPLIFIER
POSITION SIGNAL PROCESS
TORQUE DIRECTION
IC2005 (CAPSTAN MOTOR DRIVE)
P2002 4
P2002 8
P2002 13
P2002 5
P2002 7
P2002 9
P2002 11
P2002 12
P2002 14
P2002 1
HALL IC 1
HALL IC 2
HALL IC 3
FG HEAD
CAP REV Ⓗ/STOP Ⓜ/FWD Ⓛ

3-5. Hi-Fi AUDIO BLOCK DIAGRAM

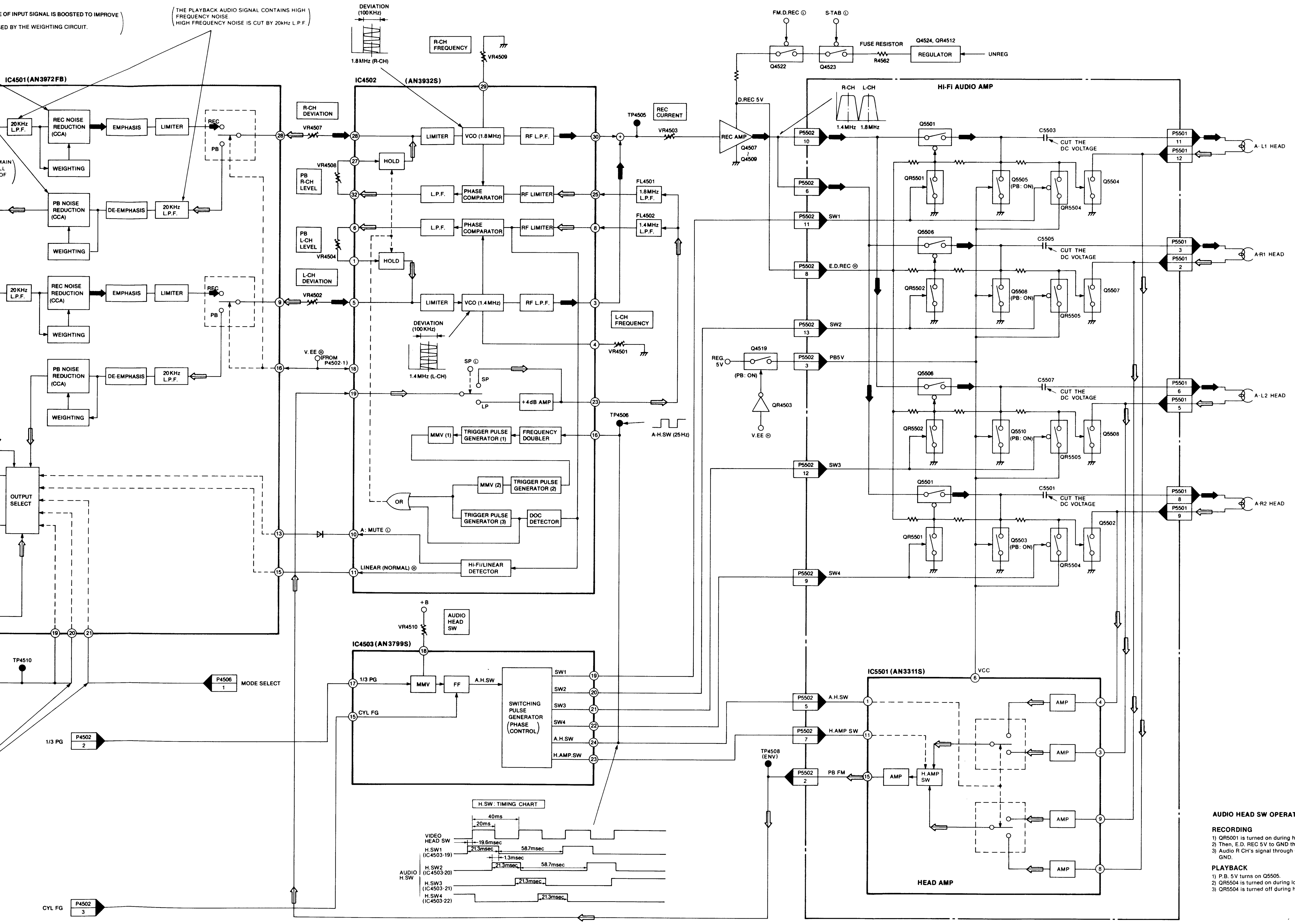
MAIN SIGNAL PATH IN REC MODE

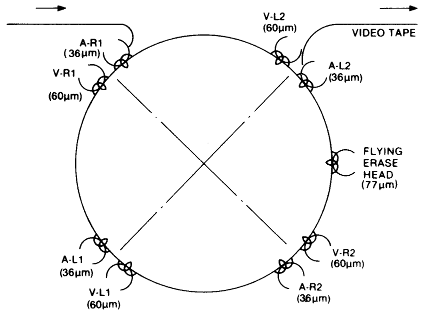
MAIN SIGNAL PATH IN PLAYBACK MODE


CCA INPUT LEVEL (dB)
−80 −60 −40 −20 0
STANDARD LEVEL (0dB)
(1) HIGH FREQUENCY RANGE OF INPUT SIGNAL IS BOOSTED TO IMPROVE THE S/N RAITO.
(2) THE LEVEL IS COMPRESSED BY THE WEIGHTING CIRCUIT.
NOISE REDUCTION CIRCUIT
(NOISE REDUCTION CIRCUIT CONSISTS OF CCA AND LEVEL SENSOR
· CCA· CURRENT CONTROL AMPLIFIER)
RECORDING (COMPRESSION)
PLAYBACK (EXPANSION)
CCA OUTPUT LEVEL (dB)
−20 −40 −60 −80
(THE PLAYBACK AUDIO SIGNAL CONTAINS HIGH FREQUENCY NOISE. HIGH FREQUENCY NOISE IS CUT BY 20kHz L.P.F.)
DEVIATION (100KHz)
1.8MHz (R-CH)
R-CH FREQUENCY
VR4509
FM.D.REC
S-TAB
Q4522
Q4523
FUSE RESISTOR
R4562
Q4524, QR4512
REGULATOR
IC4801 (BA3308)
IC4804 (MN4053BS)
IC4501 (AN3972FB)
IC4502 (AN3932S)
MIC (R)
MIC (L)
P4801
Q4801, Q4803
Q4802, Q4804
AMP
ALC
MULTI-PLEXER
P4804
P4510
ZOOM MIC
ZOOM MIC CONTROL CIRCUIT
ZOOM 0
ZOOM 1
ZOOM 2
ZOOM MIC CONTROL SIG. FROM AF CIRCUIT
FADER KEY
P6002
AUDIO FADE CIRCUIT
Q4805 C4813 R4824
NV-M10EO/EW/A/EA ONLY
A - LINE IN(R)
A - LINE IN(L)
FROM SYSTEM CTL
LINE Ⓗ
P6006
AGC
20KHz L.P.F.
REC NOISE REDUCTION (CCA)
EMPHASIS
LIMITER
WEIGHTING
REC
PB
(THE AGC ACTION MAINTRAINS AN OVERALL CONSTANT LEVEL OF AUDIO SIGNAL)
PB NOISE REDUCTION (CCA)
DE-EMPHASIS
R-CH DEVIATION
VR4507
VR4508
PB R-CH LEVEL
PB L-CH LEVEL
VR4504
L-CH DEVIATION
VR4502
HOLD
LIMITER
VCO (1.8MHz)
VCO (1.4MHz)
RF L.P.F.
L.P.F.
PHASE COMPARATOR
RF LIMITER
FL4501
1.8MHz L.P.F.
FL4502
1.4MHz L.P.F.
TP4505
REC CURRENT
VR4503
D.REC 5V
REC AMP
Q4507 Q4509
R-CH L-CH
1.4MHz 1.8MHz
Hi-Fi
P5502
Q5501
QR5501
SW1
Q5506
QR5502
E.D.REC
SW2
PB5V
REG. 5V
Q4519
(PB: ON)
QR4503
V.EE
Q5506
QR5502
SW3
Q5501
QR5501
SW4
L-CH FREQUENCY
VR4501
DEVIATION (100KHz)
1.4MHz (L-CH)
V. EE (FROM P4502-1)
SP
LP
+4dB AMP
TP4506
A-H.SW (25Hz)
MMV (1)
TRIGGER PULSE GENERATOR (1)
FREQUENCY DOUBLER
MMV (2)
TRIGGER PULSE GENERATOR (2)
OR
TRIGGER PULSE GENERATOR (3)
DOC DETECTOR
A: MUTE
LINEAR (NORMAL)
Hi-Fi/LINEAR DETECTOR
TP4502
TP4501
LINE OUT (R)
LINE OUT (L)
P4502
IC4504 (M5201FP)
AUDIO MUTE
OUTPUT SELECT
IC4002 (μPC2300G)
NORMAL AUDIO CIRCUIT
NORMAL AUDIO HEAD
RF Ⓛ
TP4510
OUTPUT SELECT
P4506
MODE SELECT
1/3 PG
CYL FG
+B
VR4510
AUDIO HEAD SW
IC4503 (AN3799S)
MMV
FF
A.H.SW
SWITCHING PULSE GENERATOR (PHASE CONTROL)
SW1
SW2
SW3
SW4
A.H.SW
H.AMP.SW
IC5501 (AN3311S)
A.H.SW
H.AMP SW
TP4508 (ENV)
PB FM
AMP
H.AMP SW
HEAD AM
H.SW TIMING CHART
40ms
20ms
VIDEO HEAD SW
19.6msec
H.SW1 (IC4503-19)
21.3msec
58.7msec
1.3msec
AUDIO H.SW
H.SW2 (IC4503-20)
H.SW3 (IC4503-21)
H.SW4 (IC4503-22)

MODE	MODE SEL (P4506-1)	OUTPUT SEL (P4506-2)
Hi-Fi	L	H
MIX (L+R)	H	H
NORMAL (LINEAR)	L	L

L PATH IN REC MODE ⇐ MAIN SIGNAL PATH IN PLAYBACK MODE


E OF INPUT SIGNAL IS BOOSTED TO IMPROVE
SED BY THE WEIGHTING CIRCUIT.
THE PLAYBACK AUDIO SIGNAL CONTAINS HIGH FREQUENCY NOISE.
HIGH FREQUENCY NOISE IS CUT BY 20kHz L.P.F.
IC4501 (AN3972FB)
20KHz L.P.F.
REC NOISE REDUCTION (CCA)
EMPHASIS
LIMITER
WEIGHTING
REC
PB
PB NOISE REDUCTION (CCA)
DE-EMPHASIS
OUTPUT SELECT
TP4510
P4506 1
MODE SELECT
1/3 PG
P4502 2
CYL FG
P4502 3
DEVIATION (100KHz)
1.8MHz (R-CH)
R-CH FREQUENCY
VR4509
IC4502 (AN3932S)
R-CH DEVIATION
VR4507
VR4508
PB R-CH LEVEL
HOLD
LIMITER
VCO (1.8MHz)
RF L.P.F.
L.P.F.
PHASE COMPARATOR
RF LIMITER
PB L-CH LEVEL
VR4504
L-CH DEVIATION
VR4502
VCO (1.4MHz)
DEVIATION (100KHz)
1.4MHz (L-CH)
L-CH FREQUENCY
VR4501
V.EE Ⓗ
(FROM P4502-1)
SP Ⓛ
SP
LP
+4dB AMP
MMV (1)
TRIGGER PULSE GENERATOR (1)
FREQUENCY DOUBLER
MMV (2)
TRIGGER PULSE GENERATOR (2)
OR
TRIGGER PULSE GENERATOR (3)
DOC DETECTOR
A: MUTE Ⓛ
LINEAR (NORMAL) Ⓗ
Hi-Fi/LINEAR DETECTOR
TP4505
REC CURRENT
VR4503
FL4501 1.8MHz L.P.F.
FL4502 1.4MHz L.P.F.
TP4506
A.H.SW (25Hz)
+B
VR4510
AUDIO HEAD SW
IC4503 (AN3799S)
1/3 PG
CYL FG
MMV
FF
A.H.SW
SWITCHING PULSE GENERATOR (PHASE CONTROL)
SW1
SW2
SW3
SW4
A.H.SW
H.AMP.SW
H.SW: TIMING CHART
40ms
20ms
VIDEO HEAD SW
19.6msec
H.SW1 (IC4503-19)
21.3msec
58.7msec
1.3msec
AUDIO H.SW
H.SW2 (IC4503-20)
H.SW3 (IC4503-21)
H.SW4 (IC4503-22)
FM.D.REC Ⓛ
S-TAB Ⓛ
Q4522
Q4523
FUSE RESISTOR
R4562
Q4524, QR4512
REGULATOR
UNREG
D.REC 5V
REC AMP
Q4507 / Q4509
HI-FI AUDIO AMP
R-CH L-CH
1.4MHz 1.8MHz
P5502
SW1
E.D.REC Ⓗ
SW2
PB5V
SW3
SW4
A.H.SW
H.AMP SW
PB FM
TP4508 (ENV)
REG. 5V
Q4519
(PB: ON)
QR4503
V.EE Ⓗ
Q5501
C5503
CUT THE DC VOLTAGE
QR5501
Q5505 (PB: ON)
QR5504
Q5504
Q5506
C5505
QR5502
Q5508 (PB: ON)
QR5505
Q5507
C5507
Q5510 (PB: ON)
Q5508
C5501
Q5503 (PB: ON)
Q5502
P5501
A-L1 HEAD
A-R1 HEAD
A-L2 HEAD
A-R2 HEAD
IC5501 (AN3311S)
VCC
AMP
H.AMP SW
HEAD AMP


VIDEO TAPE
A-R1 (36µm)
V-R1 (60µm)
V-L2 (60µm)
A-L2 (36µm)
FLYING ERASE HEAD (77µm)
A-L1 (36µm)
V-L1 (60µm)
V-R2 (60µm)
A-R2 (36µm)

9-HEAD SYSTEM

NOTE:
RERATIVE SPEED. 4850mm/sec.
FM AUDIO FREQUENCY RESPONSE: 50 20kHz
(* NORMAL AUDIO FREQUENCY RESPONSE 80 8kHz)
WOW & FLUTTER: LESS THAN 0.005%
AZIMUTH: A-L1, L2 + 30
A-R1, R2 30

AUDIO HEAD SW OPERATION (EX. A-R1 HEAD)

RECORDING

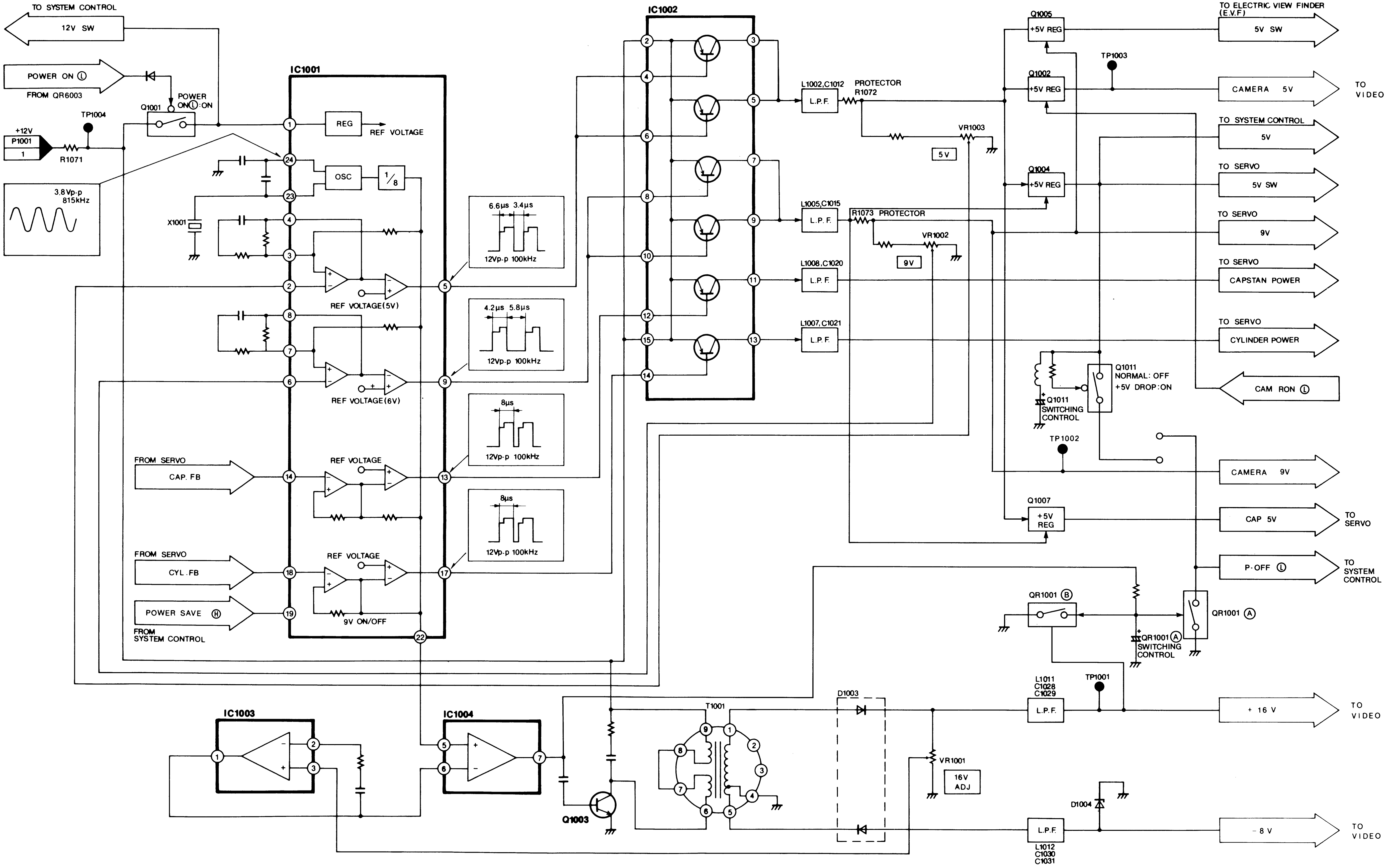
1) QR5001 is turned on during high period of H. SW1.
2) Then, E.D. REC 5V to GND through QR5501 at the same time, Q5501 is turned on.
3) Audio R CH's signal through C5503 to remove DC component and in this time, Q5504 is turned on to GND.

PLAYBACK

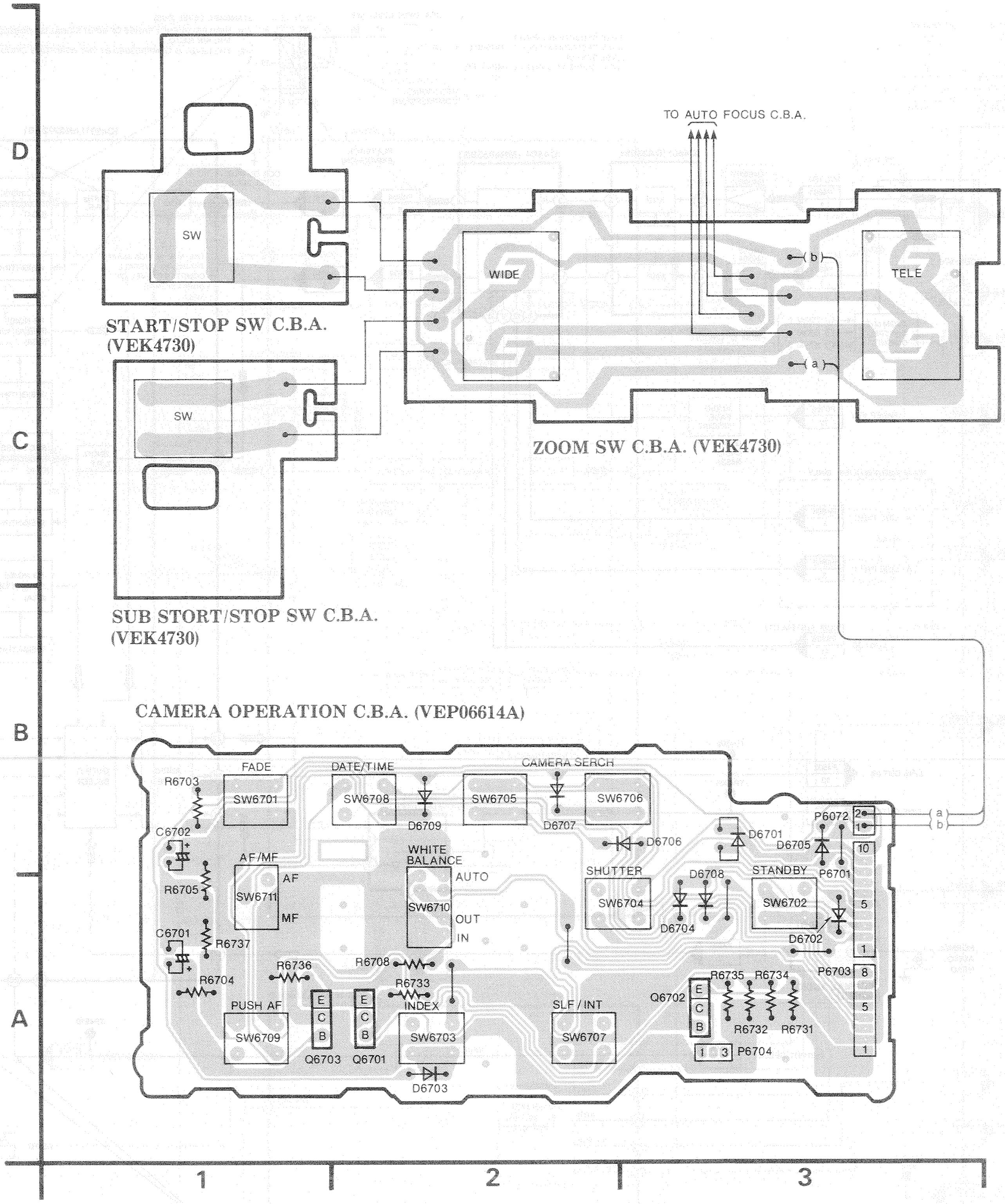
1) P.B. 5V turns on Q5505.
2) QR5504 is turned on during low period of H. SW1 to abandon picking up noise from Audio R-1 Head.
3) QR5504 is turned off during high period of H. SW1 to extract the Audio signal from Audio R-1 Head.

Next Page:
POWER SUPPLY & CAMERA OPERATION Section

3-6. POWER SUPPLY BLOCK DIAGRAM


TO SYSTEM CONTROL
12V SW
POWER ON Ⓛ
FROM QR6003
POWER ON Ⓛ: ON
Q1001
TP1004
+12V
P1001
1
R1071
3.8Vp-p
815kHz
X1001
IC1001
REG
REF VOLTAGE
OSC
1/8
REF VOLTAGE(5V)
REF VOLTAGE(6V)
FROM SERVO
CAP. FB
REF VOLTAGE
FROM SERVO
CYL. FB
REF VOLTAGE
POWER SAVE Ⓗ
FROM
SYSTEM CONTROL
9V ON/OFF
6.6μs 3.4μs
12Vp-p 100kHz
4.2μs 5.8μs
12Vp-p 100kHz
8μs
12Vp-p 100kHz
8μs
12Vp-p 100kHz
IC1002
L1002,C1012
L.P.F.
PROTECTOR
R1072
VR1003
5V
L1005,C1015
L.P.F.
R1073 PROTECTOR
VR1002
9V
L1008,C1020
L.P.F.
L1007,C1021
L.P.F.
Q1005
+5V REG
Q1002
+5V REG
Q1004
+5V REG
TP1003
TO ELECTRIC VIEW FINDER
(E.V.F)
5V SW
CAMERA 5V
TO
VIDEO
TO SYSTEM CONTROL
5V
TO SERVO
5V SW
TO SERVO
9V
TO SERVO
CAPSTAN POWER
TO SERVO
CYLINDER POWER
Q1011
NORMAL: OFF
+5V DROP: ON
Q1011
SWITCHING
CONTROL
CAM RON Ⓛ
TP1002
CAMERA 9V
Q1007
+5V
REG
CAP 5V
TO
SERVO
P-OFF Ⓛ
TO
SYSTEM
CONTROL
QR1001 Ⓑ
QR1001 Ⓐ
QR1001 Ⓐ
SWITCHING
CONTROL
L1011
C1028
C1029
TP1001
L.P.F.
+16 V
TO
VIDEO
D1003
T1001
VR1001
16V
ADJ
D1004
L.P.F.
L1012
C1030
C1031
-8 V
TO
VIDEO
IC1003
IC1004
Q1003

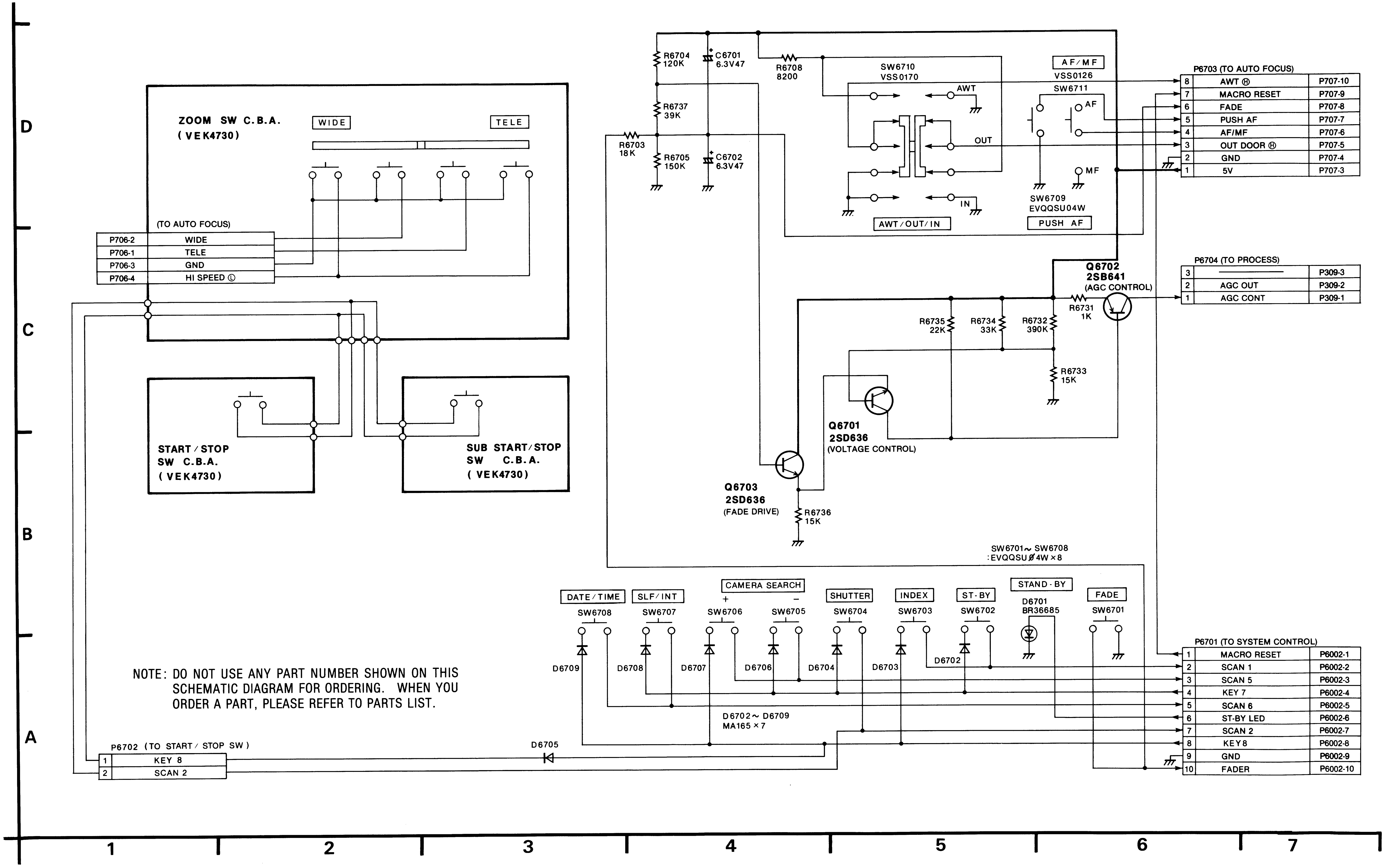
3-7. CAMERA OPERATION C.B.A. (VEP06614A)


D
C
B
A
1
2
3
TO AUTO FOCUS C.B.A.
SW
START/STOP SW C.B.A.
(VEK4730)
SW
SUB STORT/STOP SW C.B.A.
(VEK4730)
WIDE
TELE
(b)
(a)
ZOOM SW C.B.A. (VEK4730)
CAMERA OPERATION C.B.A. (VEP06614A)
FADE
SW6701
R6703
DATE/TIME
SW6708
D6709
SW6705
CAMERA SERCH
D6707
SW6706
C6702
AF/MF
AF
SW6711
MF
R6705
C6701
R6737
R6704
R6736
WHITE
BALANCE
AUTO
SW6710
OUT
IN
R6708
R6733
INDEX
PUSH AF
SW6709
Q6703
Q6701
E
C
B
SW6703
D6703
D6706
SHUTTER
SW6704
D6708
D6704
D6701
D6705
STANDBY
SW6702
D6702
P6072
P6701
P6703
SLF / INT
SW6707
Q6702
R6735
R6734
R6732
R6731
P6704
2
1
10
5
1
8
5
1
1
3
a
b

CAMERA OPERATION C.B.A.	
Transistor	
Q6701	A-2
Q6702	A-3
Q6703	A-1
Connector	
P6701	B-3
P6702	B-3
P6703	A-3
P6704	A-3

ADDRESS INFORMATION

3-8. CAMERA OPERATION SCHEMATIC DIAGRAM


D
C
B
A
1
2
3
4
5
6
7
ZOOM SW C.B.A.
(VEK4730)
WIDE
TELE
(TO AUTO FOCUS)
P706-2 WIDE
P706-1 TELE
P706-3 GND
P706-4 HI SPEED Ⓛ
START / STOP
SW C.B.A.
(VEK4730)
SUB START/STOP
SW C.B.A.
(VEK4730)
P6702 (TO START/ STOP SW)
1 KEY 8
2 SCAN 2
D6705
R6704
120K
C6701
6.3V47
R6737
39K
R6703
18 K
R6705
150K
C6702
6.3V47
R6708
8200
SW6710
VSS0170
AWT
OUT
IN
AWT/OUT/IN
AF/MF
VSS0126
SW6711
AF
MF
SW6709
EVQQSU04W
PUSH AF
P6703 (TO AUTO FOCUS)
8 AWT Ⓗ P707-10
7 MACRO RESET P707-9
6 FADE P707-8
5 PUSH AF P707-7
4 AF/MF P707-6
3 OUT DOOR Ⓗ P707-5
2 GND P707-4
1 5V P707-3
P6704 (TO PROCESS)
3 P309-3
2 AGC OUT P309-2
1 AGC CONT P309-1
Q6702
2SB641
(AGC CONTROL)
R6731
1K
R6735
22K
R6734
33K
R6732
390K
R6733
15K
Q6701
2SD636
(VOLTAGE CONTROL)
Q6703
2SD636
(FADE DRIVE)
R6736
15K
SW6701~ SW6708
:EVQQSUØ4W ×8
DATE/TIME
SW6708
SLF/INT
SW6707
CAMERA SEARCH
+
−
SW6706
SW6705
SHUTTER
SW6704
INDEX
SW6703
ST-BY
SW6702
STAND-BY
D6701
BR36685
FADE
SW6701
D6709
D6708
D6707
D6706
D6704
D6703
D6702
D6702~ D6709
MA165 ×7
P6701 (TO SYSTEM CONTROL)
1 MACRO RESET P6002-1
2 SCAN 1 P6002-2
3 SCAN 5 P6002-3
4 KEY 7 P6002-4
5 SCAN 6 P6002-5
6 ST-BY LED P6002-6
7 SCAN 2 P6002-7
8 KEY 8 P6002-8
9 GND P6002-9
10 FADER P6002-10

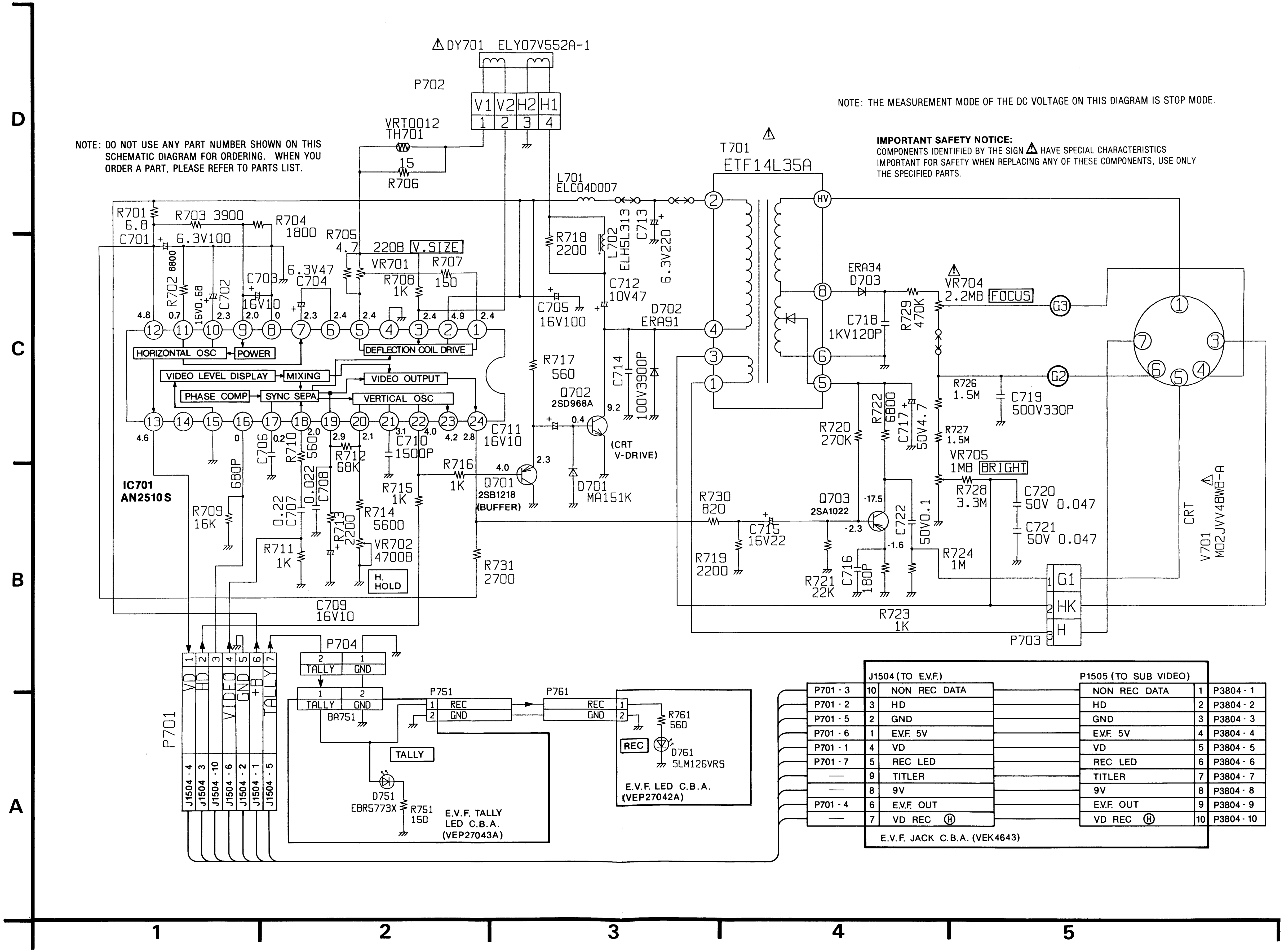
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-9. E.V.F. SCHEMATIC DIAGRAM

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

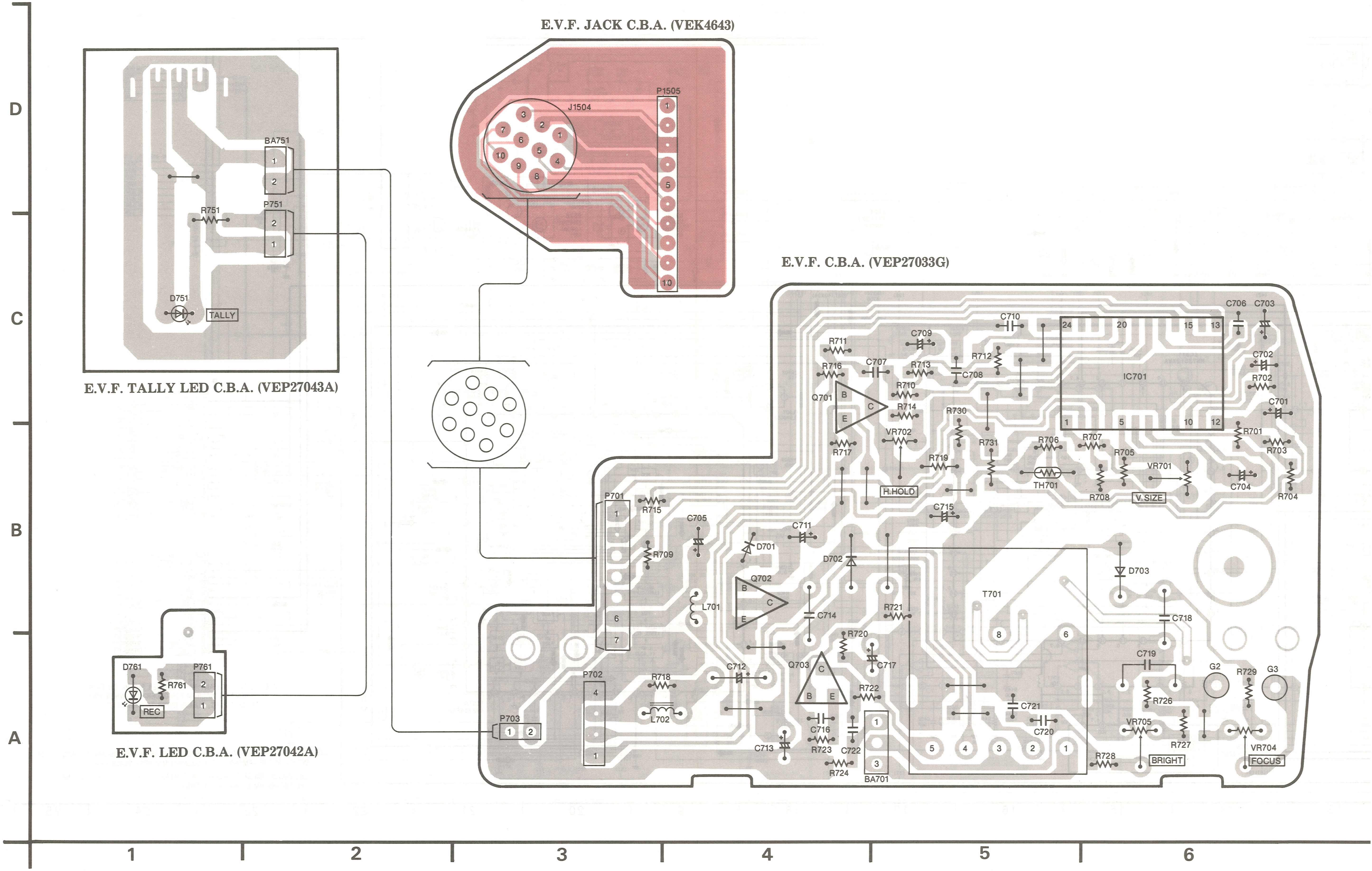
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.


D
C
B
A
1
2
3
4
5
⚠DY701 ELY07V552A-1
P702
V1 V2 H2 H1
1 2 3 4
VRT0012
TH701
15
R706
L701
ELC04D007
T701
ETF14L35A
⚠
R701 6.8
R703 3900
R704 1800
R705 4.7
C701 6.3V100
220B V.SIZE
VR701
R707 150
R708 1K
R702 6800
16V0.68
C702
C703 16V10
6.3V47
C704
4.8
0.7
2.3
2.0
0
2.3
2.4
2.4
2.4
4.9
2.4
HORIZONTAL OSC
POWER
DEFLECTION COIL DRIVE
VIDEO LEVEL DISPLAY
MIXING
VIDEO OUTPUT
PHASE COMP
SYNC SEPA
VERTICAL OSC
4.6
0
0.2
2.0
2.9
2.1
3.1
4.0
4.2
2.8
C711 16V10
IC701
AN2510S
680P
C706
R710 560
R712 68K
C710 1500P
R716 1K
R709 16K
0.22 C707
0.022 C708
R713 2200
R714 5600
R715 1K
VR702 4700B
H. HOLD
R711 1K
R731 2700
C709 16V10
R718 2200
L702 ELH5L313
C713 6.3V220
C705 16V100
C712 10V47
D702 ERA91
R717 560
Q702 2SD968A
C714 100V3900P
9.2
0.4
2.3
4.0
Q701 2SB1218 (BUFFER)
(CRT V-DRIVE)
D701 MA151K
HV
ERA34 D703
⚠ VR704 2.2MB FOCUS
G3
C718 1KV120P
R729 470K
R726 1.5M
C719 500V330P
G2
R727 1.5M
VR705 1MB BRIGHT
R728 3.3M
C720 50V 0.047
C721 50V 0.047
R720 270K
R722 6800
C717 50V4.7
R730 820
Q703 2SA1022
-17.5
-2.3
-1.6
C715 16V22
C722 50V0.1
R724 1M
R719 2200
R721 22K
C716 180P
R723 1K
G1
HK
H
P703
CRT
V701 ⚠ M02JVV48WB-A
P704
2 TALLY
1 GND
1 TALLY
2 GND
BA751
P751
1 REC
2 GND
P761
REC 1
GND 2
R761 560
REC
D761 SLM126VRS
E.V.F. LED C.B.A. (VEP27042A)
TALLY
D751 EBR5773X
R751 150
E.V.F. TALLY LED C.B.A. (VEP27043A)
P701
1 VD
2 HD
3
4 VIDEO
5 GND
6 +B
7 TALLY
J1504-4
J1504-3
J1504-10
J1504-6
J1504-2
J1504-1
J1504-5

E.V.F. JACK C.B.A. (VEK4643)

	J1504 (TO E.V.F.)		P1505 (TO SUB VIDEO)		
P701 - 3	10	NON REC DATA	NON REC DATA	1	P3804 - 1
P701 - 2	3	HD	HD	2	P3804 - 2
P701 - 5	2	GND	GND	3	P3804 - 3
P701 - 6	1	E.V.F. 5V	E.V.F. 5V	4	P3804 - 4
P701 - 1	4	VD	VD	5	P3804 - 5
P701 - 7	5	REC LED	REC LED	6	P3804 - 6
—	9	TITLER	TITLER	7	P3804 - 7
—	8	9V	9V	8	P3804 - 8
P701 - 4	6	E.V.F. OUT	E.V.F. OUT	9	P3804 - 9
—	7	VD REC Ⓗ	VD REC Ⓗ	10	P3804 - 10

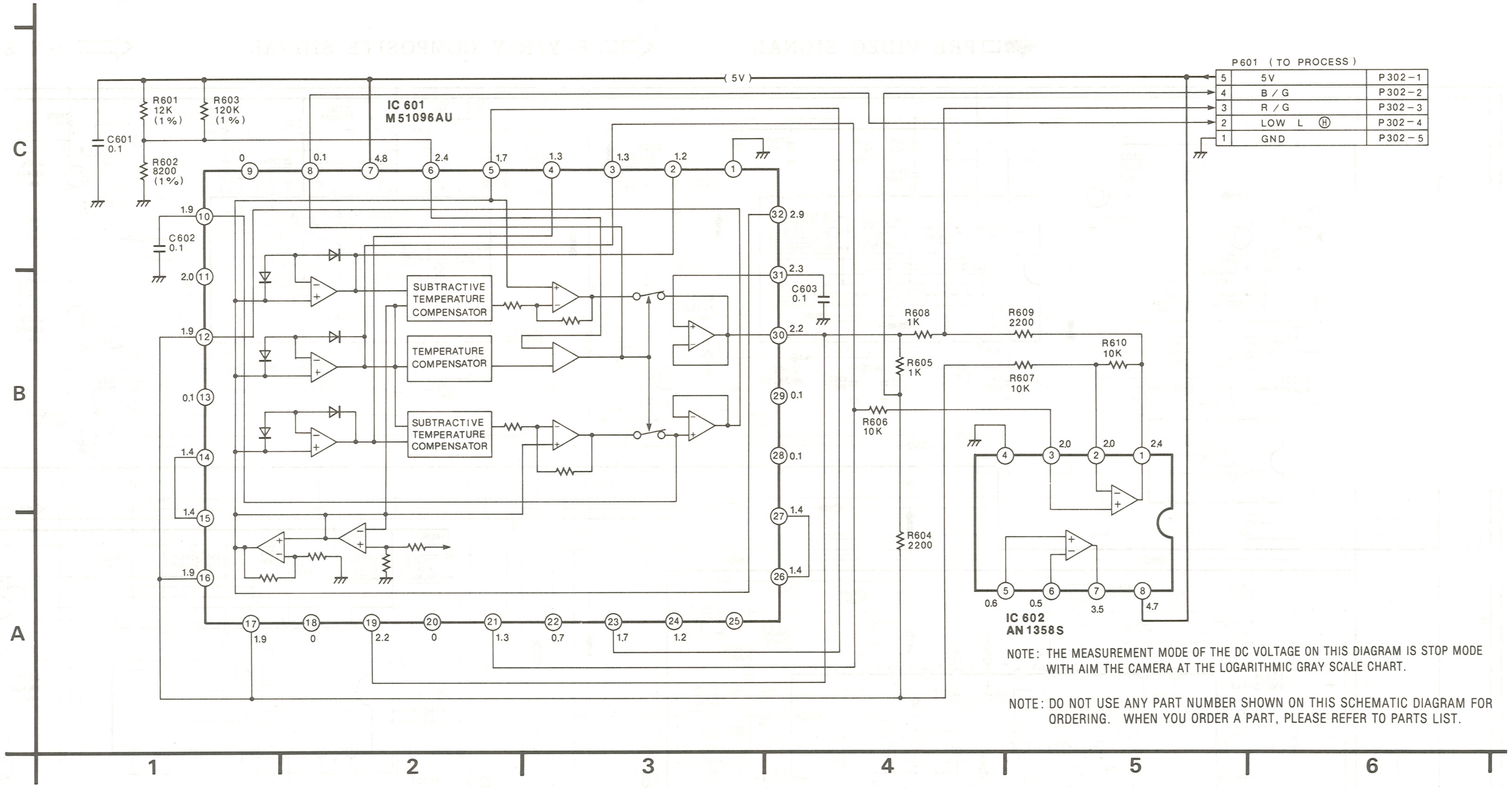
3-10. E.V.F. C.B.A. (VEP27033G)


E.V.F. JACK C.B.A. (VEK4643)
J1504
P1505
E.V.F. TALLY LED C.B.A. (VEP27043A)
BA751
P751
R751
D751
TALLY
E.V.F. LED C.B.A. (VEP27042A)
D761
R761
P761
REC
E.V.F. C.B.A. (VEP27033G)
IC701
Q701
Q702
Q703
T701
P701
P702
P703
BA701
TH701
L701
L702
D701
D702
D703
R701
R702
R703
R704
R705
R706
R707
R708
R709
R710
R711
R712
R713
R714
R715
R716
R717
R718
R719
R720
R721
R722
R723
R724
R726
R727
R728
R729
R730
R731
C701
C702
C703
C704
C705
C706
C707
C708
C709
C710
C711
C712
C713
C714
C715
C716
C717
C718
C719
C720
C721
C722
VR701
VR702
VR704
VR705
H.HOLD
V.SIZE
BRIGHT
FOCUS
G2
G3
A
B
C
D
1
2
3
4
5
6

E.V.F. C.B.A.	
Transistor	
Q701	C-4
Q702	B-4
Q703	A-4
Integrated Circuit	
IC701	C-6
Adjustment	
VR701	B-6
VR702	B-5
VR704	A-6
VR705	A-6
Connector	
P1505	D-3
P701	B-3
P702	A-3
P703	A-3
P751	C-2
P761	A-1
BA701	A-5
BA751	D-2
J1504	D-3

ADDRESS INFORMATION

3-11. AWT SCHEMATIC DIAGRAM

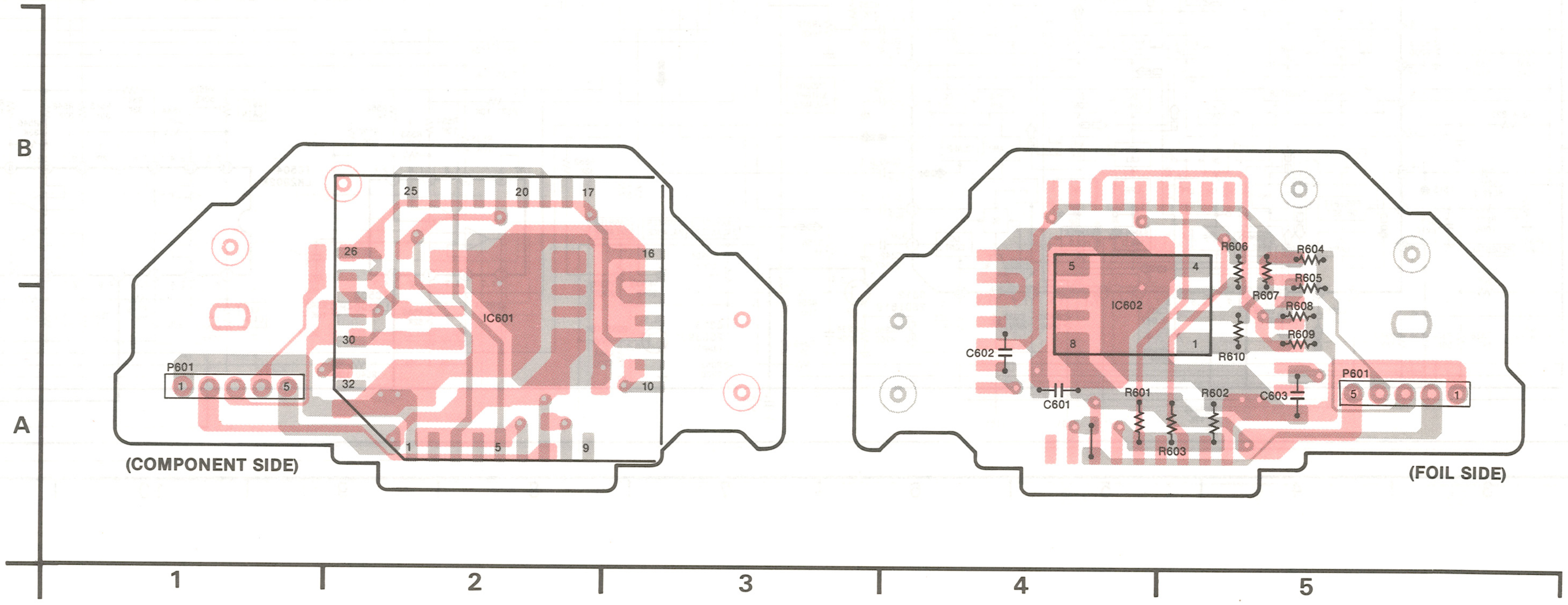


C
B
A
1
2
3
4
5
6
5V
R601 12K (1%)
R603 120K (1%)
R602 8200 (1%)
C601 0.1
C602 0.1
C603 0.1
IC 601 M51096AU
SUBTRACTIVE TEMPERATURE COMPENSATOR
TEMPERATURE COMPENSATOR
SUBTRACTIVE TEMPERATURE COMPENSATOR
R604 2200
R605 1K
R606 10K
R607 10K
R608 1K
R609 2200
R610 10K
IC 602 AN1358S
P601 (TO PROCESS)
5 5V P302-1
4 B/G P302-2
3 R/G P302-3
2 LOW L Ⓗ P302-4
1 GND P302-5

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-12. AWT C.B.A. (VEP26055A)

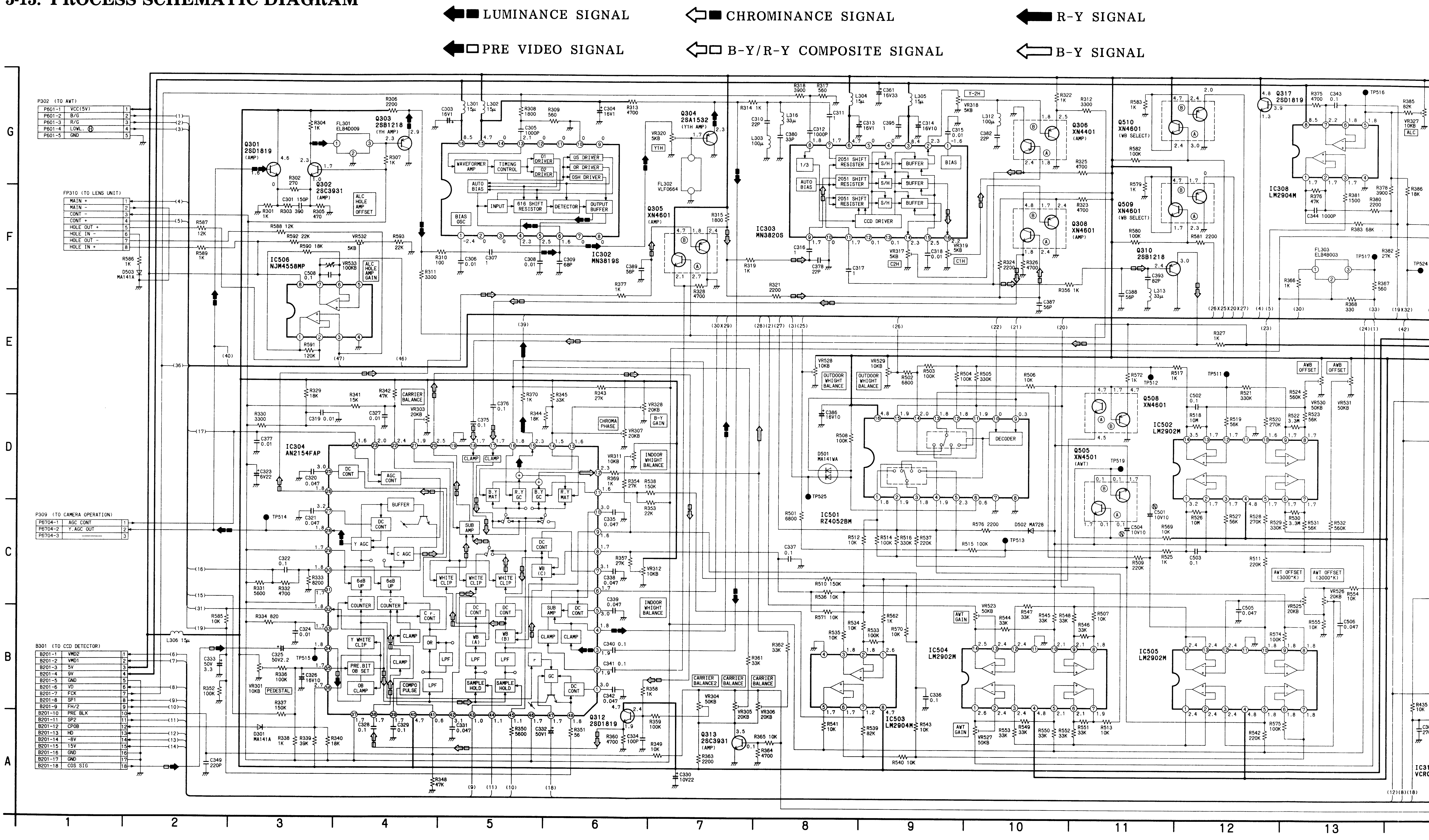


B
A
1
2
3
4
5
IC601
P601
(COMPONENT SIDE)
IC602
C601
C602
C603
R601
R602
R603
R604
R605
R606
R607
R608
R609
R610
P601
(FOIL SIDE)

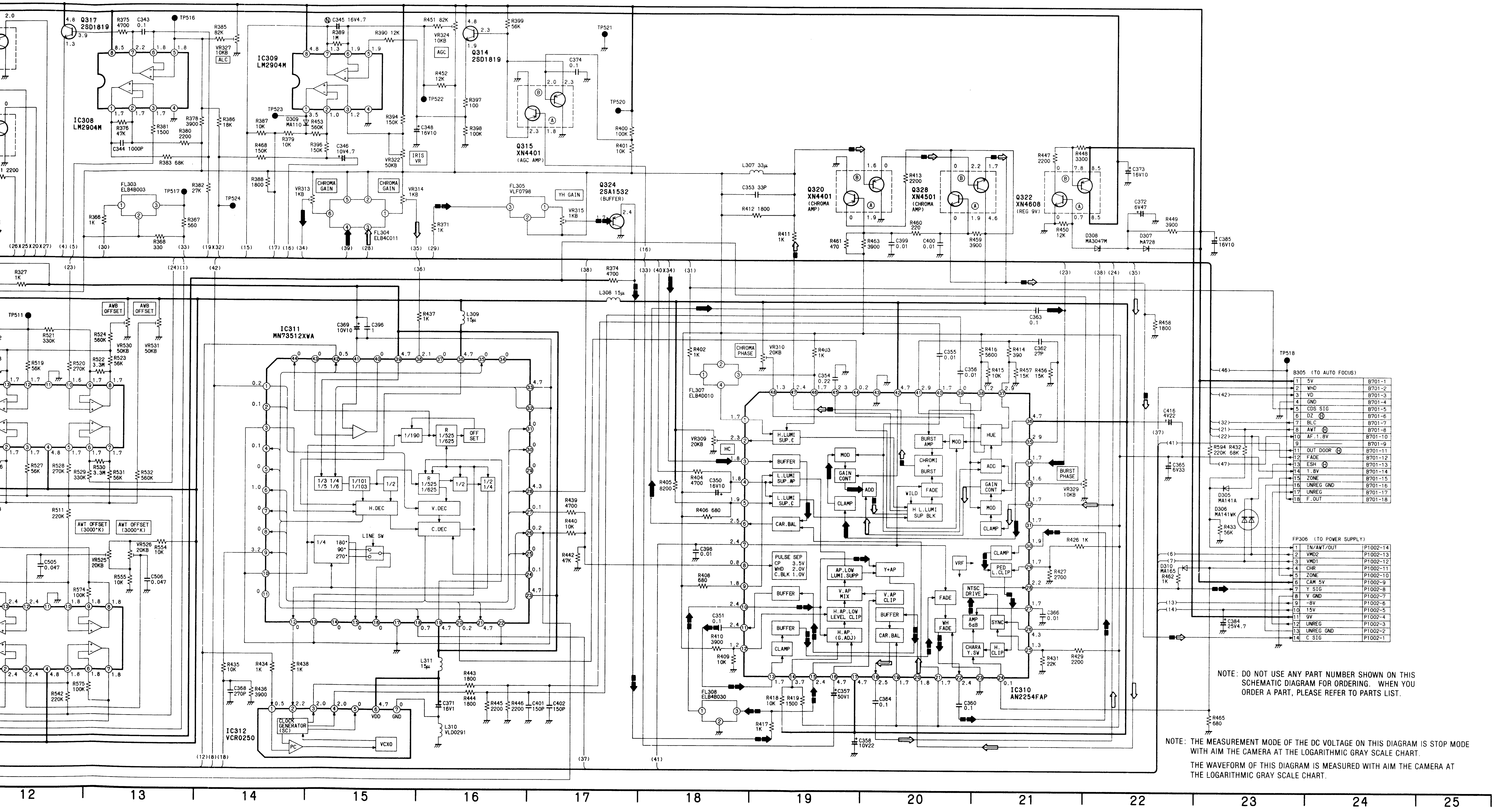
AWT C.B.A.	
Integrated Circuit	
IC601	A-2 Ⓒ
IC602	B-4 Ⓕ
Connector	
P601	A-1 Ⓒ
P601	A-5 Ⓕ

ADDRESS INFORMATION
Ⓒ... COMPONENT SIDE
Ⓕ... FOIL SIDE

3-13. PROCESS SCHEMATIC DIAGRAM


LUMINANCE SIGNAL
CHROMINANCE SIGNAL
R-Y SIGNAL
PRE VIDEO SIGNAL
B-Y/R-Y COMPOSITE SIGNAL
B-Y SIGNAL
P302 (TO AWT)
FP310 (TO LENS UNIT)
P309 (TO CAMERA OPERATION)
B301 (TO CCD DETECTOR)
IC506 NJM4558MP
IC302 MN3819S
IC303 MN3820S
IC304 AN2154FAP
IC308 LM2904M
IC501 RZ4052BM
IC502 LM2902M
IC503 LM2904M
IC504 LM2902M
IC505 LM2902M
Q301 2SD1819
Q302 2SC3931
Q303 2SB1218
Q304 2SA1532
Q305 XN4601
Q306 XN4401
Q308 XN4601
Q310 2SB1218
Q312 2SD1819
Q313 2SC3931
Q317 2SD1819
Q505 XN4501
Q508 XN4601
Q509 XN4601
Q510 XN4601
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12
13

Back Page:
E.V.F. & AWT Section


Q317 2SD1819
IC308 LM2904M
IC309 LM2904M
Q314 2SD1819
Q315 XN4401 (AGC AMP)
Q324 2SA1532 (BUFFER)
Q320 XN4401 (CHROMA AMP)
Q328 XN4501 (CHROMA AMP)
Q322 XN4608 (REG 9V)
IC311 MN73512XWA
IC312 VCR0250
IC310 AN2254FAP
FL303 ELB4B003
FL304 ELB4C011
FL305 VLF0798
FL307 ELB4D010
FL308 ELB4B030
ALC
AGC
IRIS VR
CHROMA GAIN
YH GAIN
CHROMA PHASE
AWB OFFSET
AWT OFFSET (3000°K)
HC
BURST PHASE
H.LUMI SUP.C
BUFFER
L.LUMI SUP.AP
L.LUMI SUP.C
CAR.BAL
PULSE SEP CP 3.5V WHD 2.0V C.BLK 1.0V
AP.LOW LUMI.SUPP
Y+AP
V.AP MIX
V.AP CLIP
H.AP.LOW LEVEL CLIP
H.AP. (G.ADJ)
CLAMP
MOD
GAIN CONT
ADD
BURST AMP
CHROMI + BURST
WILD
FADE
H L.LUMI SUP BLK
HUE
PED L.CLIP
VRF
NTSC DRIVE
AMP 6dB
SYNC
CHARA Y.SW
H. CLIP
WH FADE
1/190
R 1/525 1/625
OFF SET
1/3 1/4 1/5 1/6
1/101 1/103
1/2
1/4
H.DEC
V.DEC
C.DEC
LINE SW
180° 90° 270°
CLOCK GENERATOR (SC)
PC
VCXO
VDD
GND
B305 (TO AUTO FOCUS)
1 5V B701-1
2 WHD B701-2
3 VD B701-3
4 GND B701-4
5 CDS SIG B701-5
6 DZ Ⓗ B701-6
7 BLC B701-7
8 AWT Ⓗ B701-8
10 AF.1.8V B701-10
9 B701-9
11 OUT DOOR Ⓗ B701-11
12 FADE B701-12
13 ESH Ⓗ B701-13
14 1.8V B701-14
15 ZONE B701-15
16 UNREG GND B701-16
17 UNREG B701-17
18 F.OUT B701-18
FP306 (TO POWER SUPPLY)
1 IN/AWT/OUT P1002-14
2 VMD2 P1002-13
3 VMD1 P1002-12
4 CHR P1002-11
5 ZONE P1002-10
6 CAM 5V P1002-9
7 Y SIG P1002-8
8 V GND P1002-7
9 -8V P1002-6
10 15V P1002-5
11 9V P1002-4
12 UNREG P1002-3
13 UNREG GND P1002-2
14 C SIG P1002-1
TP511
TP516
TP517
TP518
TP520
TP521
TP522
TP523
TP524
12
13
14
15
16
17
18
19
20
21
22
23
24
25

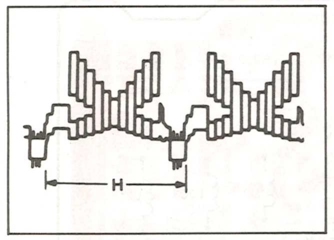
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

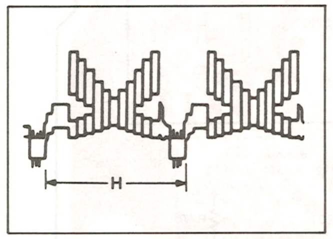
THE WAVEFORM OF THIS DIAGRAM IS MEASURED WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

3-14. PROCESS C.B.A. (VEP23095A)

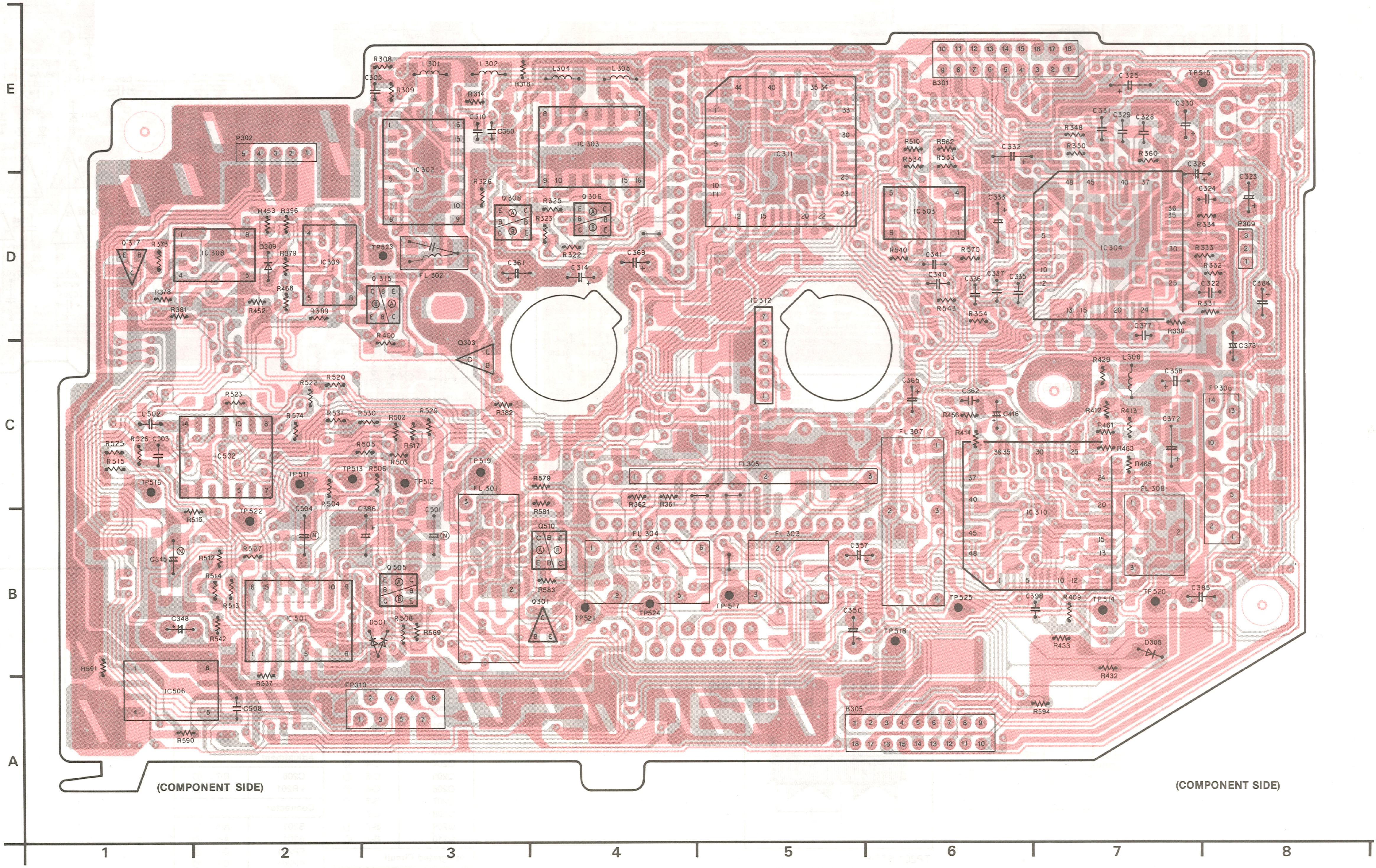
PROCESS CIRCUIT TP (Test Point)
WAVEFORM (REF. NO. 500 Series)

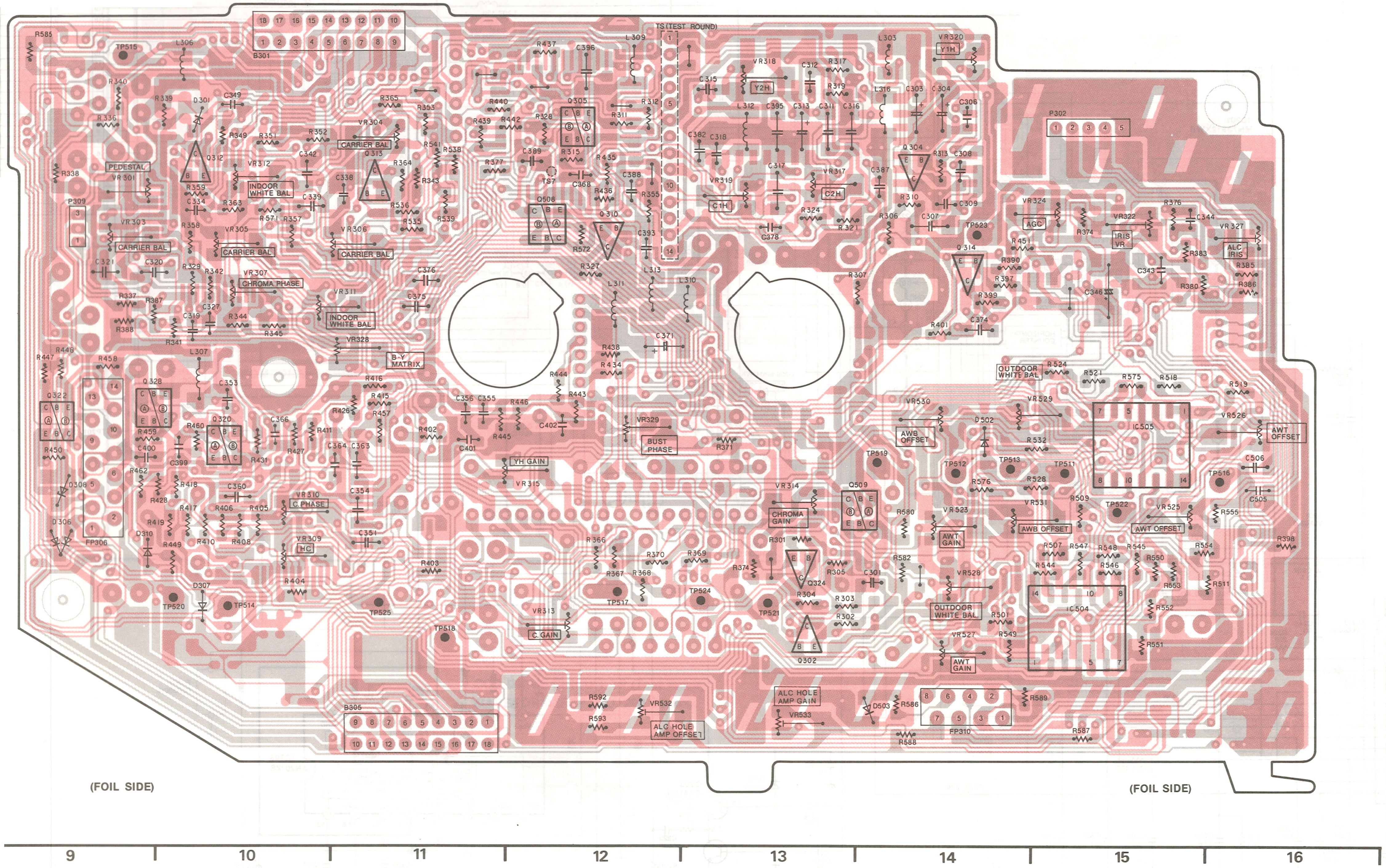


TP514 STOP
0.1V/20μsec. div. 0.32Vp-p



TP515 STOP
0.1V/20μsec. div. 0.45Vp-p


E
D
C
B
A
1
2
3
4
5
6
7
8
(COMPONENT SIDE)
(COMPONENT SIDE)
IC302
IC303
IC311
IC503
IC304
IC308
IC309
IC312
IC502
IC501
IC506
IC310
FL302
FL301
FL305
FL304
FL303
FL307
FL308
P302
P309
B301
B305
FP306
FP310
Q303
Q305
Q306
Q308
Q315
Q317
Q301
Q505
Q510
TP514
TP515
TP516
TP511
TP513
TP512
TP519
TP522
TP523
TP517
TP518
TP520
TP521
TP524
TP525
L301
L302
L304
L305
L308
D305
D309
D501


PEDESTAL
CARRIER BAL
INDOOR WHITE BAL
CHROMA PHASE
B-Y MATRIX
YH GAIN
BUST PHASE
C. PHASE
HC
C. GAIN
CHROMA GAIN
AWB OFFSET
AWT GAIN
OUTDOOR WHITE BAL
AGC
IRIS VR
ALC IRIS
AWT OFFSET
ALC HOLE AMP GAIN
ALC HOLE AMP OFFSET
TS (TEST ROUND)
9
10
11
12
13
14
15
16

(FOIL SIDE)

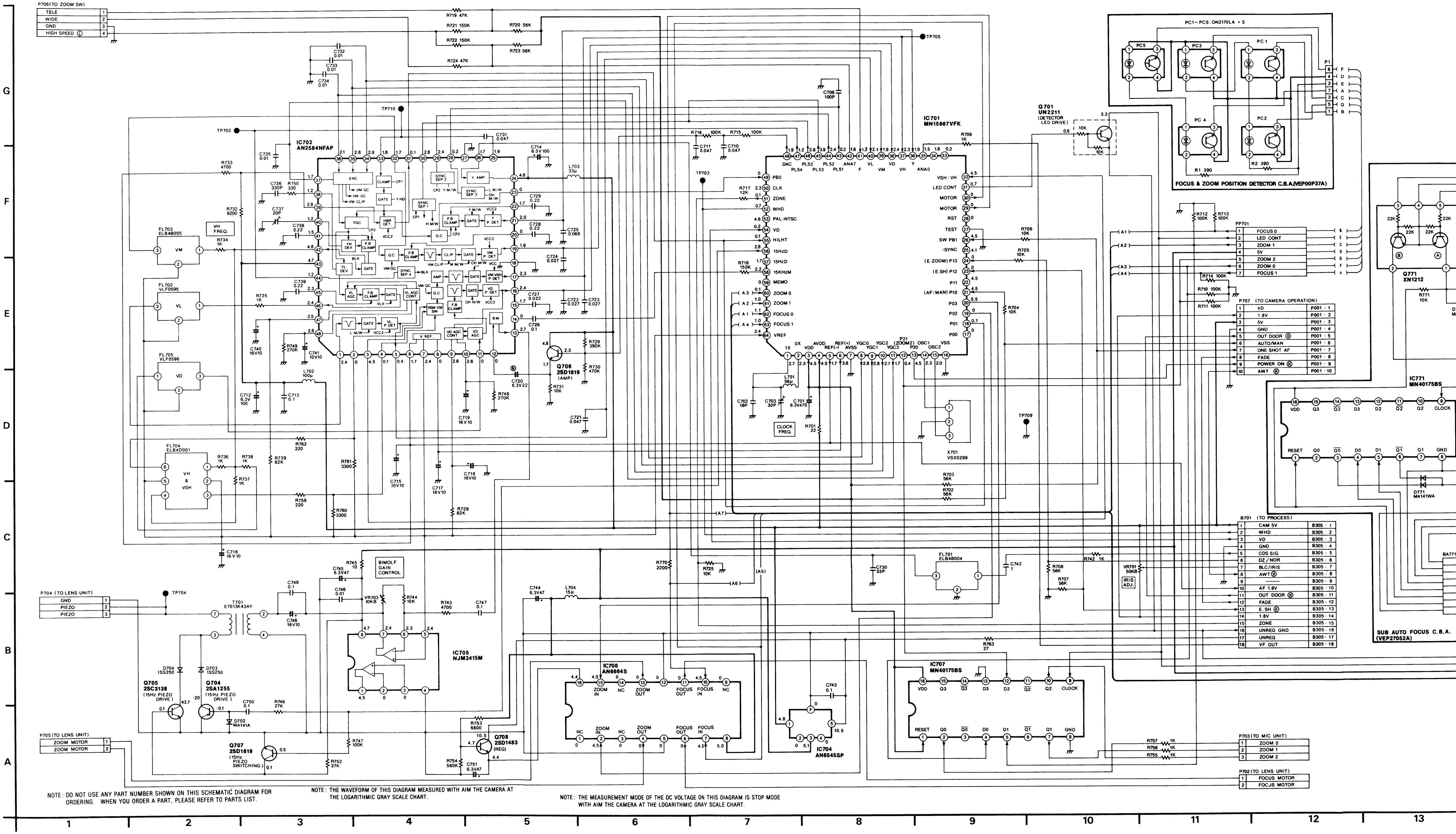
(FOIL SIDE)

PROCESS C.B.A.

Transistor		
Q301	B-4	Ⓒ
Q302	B-13	Ⓕ
Q303	C-3	Ⓒ
Q304	D-14	Ⓕ
Q305	E-12	Ⓕ
Q306	D-4	Ⓒ
Q308	D-3	Ⓒ
Q310	D-12	Ⓕ
Q312	D-10	Ⓕ
Q313	D-11	Ⓕ
Q314	D-14	Ⓕ
Q315	D-3	Ⓒ
Q317	D-1	Ⓒ
Q320	C-10	Ⓕ
Q322	C-9	Ⓕ
Q324	B-13	Ⓕ
Q328	C-9	Ⓕ
Q505	B-3	Ⓒ
Q508	D-12	Ⓕ
Q509	C-14	Ⓕ
Q510	B-4	Ⓒ
Integrated Circuit		
IC302	E-3	Ⓒ
IC303	E-4	Ⓒ
IC304	D-7	Ⓒ
IC308	D-2	Ⓒ
IC309	D-2	Ⓒ
IC310	B-7	Ⓒ
IC311	E-5	Ⓒ
IC312	D-5	Ⓒ
IC501	B-2	Ⓒ
IC502	C-2	Ⓒ
IC503	D-6	Ⓒ
IC504	B-15	Ⓕ
IC505	C-15	Ⓕ
IC506	A-1	Ⓒ
Test Point		
TP511	C-15	Ⓕ
TP511	C-2	Ⓒ
TP512	C-14	Ⓕ
TP512	C-3	Ⓒ
TP513	C-14	Ⓕ
TP513	C-2	Ⓒ
TP514	B-10	Ⓕ
TP514	B-7	Ⓒ
TP515	E-8	Ⓒ
TP515	E-9	Ⓕ
TP516	C-1	Ⓒ
TP516	C-16	Ⓕ
TP517	B-12	Ⓕ
TP517	B-5	Ⓒ
TP518	B-11	Ⓕ
TP518	B-6	Ⓒ
TP519	C-14	Ⓕ
TP519	C-3	Ⓒ
TP520	B-10	Ⓕ
TP520	B-7	Ⓒ
TP521	B-13	Ⓕ
TP521	B-4	Ⓒ
TP522	B-15	Ⓕ
TP522	B-2	Ⓒ
TP523	D-14	Ⓕ
TP523	D-3	Ⓒ
TP524	B-13	Ⓕ
TP524	B-4	Ⓒ
TP525	B-11	Ⓕ
TP525	B-6	Ⓒ
Adjustment		
VR301	D-9	Ⓕ
VR303	D-9	Ⓕ
VR304	E-11	Ⓕ
VR305	D-10	Ⓕ
VR306	D-11	Ⓕ
VR307	D-10	Ⓕ
VR309	B-10	Ⓕ
VR310	B-10	Ⓕ
VR311	D-11	Ⓕ
VR312	D-10	Ⓕ
VR313	B-12	Ⓕ
VR314	C-13	Ⓕ
VR315	C-12	Ⓕ
VR317	D-13	Ⓕ
VR318	E-13	Ⓕ
VR319	D-13	Ⓕ
VR320	E-14	Ⓕ
VR322	D-15	Ⓕ
VR324	D-15	Ⓕ
VR327	D-16	Ⓕ
VR328	C-11	Ⓕ
VR329	C-12	Ⓕ
VR523	B-14	Ⓕ
VR525	B-15	Ⓕ
VR526	C-16	Ⓕ
VR527	B-14	Ⓕ
VR528	B-14	Ⓕ
VR529	C-15	Ⓕ
VR530	C-14	Ⓕ
VR531	B-15	Ⓕ
VR532	A-12	Ⓕ
VR533	A-13	Ⓕ
Connector		
B301	E-10	Ⓕ
B301	E-6	Ⓒ
B305	A-11	Ⓕ
B305	A-6	Ⓒ
FP306	B-9	Ⓕ
FP306	C-8	Ⓒ
FP310	A-14	Ⓕ
FP310	A-3	Ⓒ
P302	E-15	Ⓕ
P302	E-2	Ⓒ
P309	D-8	Ⓒ
P309	D-9	Ⓕ

ADDRESS INFORMATION
Ⓒ... COMPONENT SIDE
Ⓕ... FOIL SIDE

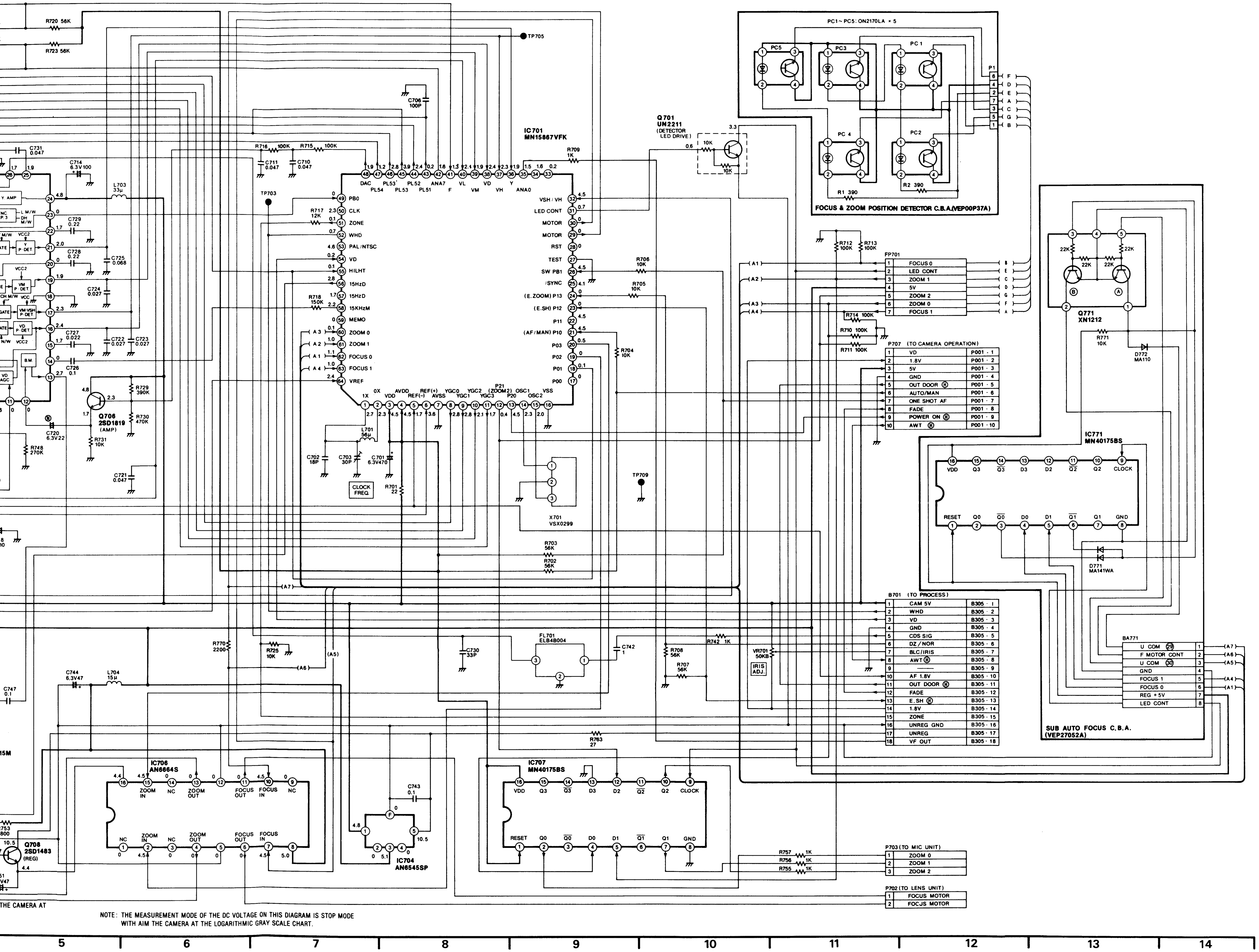
3-17. AUTO FOCUS SCHEMATIC DIAGRAM


P706 (TO ZOOM SW)
TELE
WIDE
GND
HIGH SPEED
IC702
AN2584NFAP
IC701
MN15867VFK
Q701
UN2211
(DETECTOR LED DRIVE)
PC1~PC5: ON2170LA × 5
FOCUS & ZOOM POSITION DETECTOR C.B.A.(VEP00P37A)
FP701
FOCUS 0
LED CONT
ZOOM 1
5V
ZOOM 2
ZOOM 0
FOCUS 1
P707 (TO CAMERA OPERATION)
VD
1.8V
5V
GND
OUT DOOR
AUTO/MAN
ONE SHOT AF
FADE
POWER ON
AWT
B701 (TO PROCESS)
CAM 5V
WHD
VD
GND
CDS SIG
DZ/NOR
BLC/IRIS
AWT
AF 1.8V
OUT DOOR
FADE
E.SH
1.8V
ZONE
UNREG GND
UNREG
VF OUT
SUB AUTO FOCUS C.B.A. (VEP27052A)
Q771
XN1212
IC771
MN40175BS
D771
MA141WA
FL702
VLF0595
FL703
ELB4B005
FL705
VLF0596
FL704
ELB4D001
Q706
2SD1819
(AMP)
P704 (TO LENS UNIT)
GND
PIEZO
PIEZO
T701
ETE13K43AY
Q705
2SC3138
(15Hz PIEZO DRIVE)
Q704
2SA1255
(15Hz PIEZO DRIVE)
Q707
2SD1819
(15Hz PIEZO SWITCHING)
IC705
NJM3415M
BIMOLF GAIN CONTROL
Q708
2SD1483
(REG)
IC706
AN6664S
IC704
AN6545SP
IC707
MN40175BS
FL701
ELB4B004
X701
VSX0299
VR701
50KB
IRIS ADJ.
CLOCK FREQ.
P705 (TO LENS UNIT)
ZOOM MOTOR
ZOOM MOTOR
P703 (TO MIC UNIT)
ZOOM 0
ZOOM 1
ZOOM 2
P702 (TO LENS UNIT)
FOCUS MOTOR
FOCUS MOTOR
TP702
TP703
TP704
TP705
TP709
TP710
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12
13

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

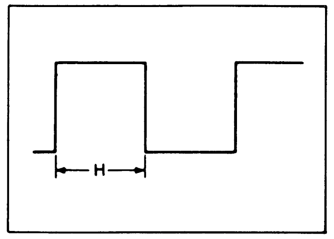
NOTE: THE WAVEFORM OF THIS DIAGRAM MEASURED WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

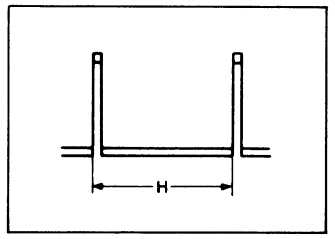

IC701 MN15867VFK
Q701 UN2211 (DETECTOR LED DRIVE)
PC1~PC5 : ON2170LA × 5
FOCUS & ZOOM POSITION DETECTOR C.B.A.(VEP00P37A)
R1 390
R2 390
TP703
TP705
TP709
Q706 2SD1819 (AMP)
Q708 2SD1483 (REG)
IC706 AN6664S
IC707 MN40175BS
IC704 AN6545SP
IC771 MN40175BS
Q771 XN1212
D772 MA110
D771 MA141WA
X701 VSX0299
FL701 ELB4B004
VR701 50KB
IRIS ADJ.
CLOCK FREQ.
SUB AUTO FOCUS C.B.A. (VEP27052A)
FP701
1 FOCUS 0
2 LED CONT
3 ZOOM 1
4 5V
5 ZOOM 2
6 ZOOM 0
7 FOCUS 1
P707 (TO CAMERA OPERATION)
1 VD P001 · 1
2 1.8V P001 · 2
3 5V P001 · 3
4 GND P001 · 4
5 OUT DOOR Ⓗ P001 · 5
6 AUTO/MAN P001 · 6
7 ONE SHOT AF P001 · 7
8 FADE P001 · 8
9 POWER ON Ⓗ P001 · 9
10 AWT Ⓗ P001 · 10
B701 (TO PROCESS)
1 CAM 5V B305 · 1
2 WHD B305 · 2
3 VD B305 · 3
4 GND B305 · 4
5 CDS SIG B305 · 5
6 DZ / NOR B305 · 6
7 BLC/IRIS B305 · 7
8 AWT Ⓗ B305 · 8
9 —— B305 · 9
10 AF 1.8V B305 · 10
11 OUT DOOR Ⓗ B305 · 11
12 FADE B305 · 12
13 E.SH Ⓗ B305 · 13
14 1.8V B305 · 14
15 ZONE B305 · 15
16 UNREG GND B305 · 16
17 UNREG B305 · 17
18 VF OUT B305 · 18
BA771
1 U COM ㉕
2 F MOTOR CONT
3 U COM ㉚
4 GND
5 FOCUS 1
6 FOCUS 0
7 REG +5V
8 LED CONT
P703 (TO MIC UNIT)
1 ZOOM 0
2 ZOOM 1
3 ZOOM 2
P702 (TO LENS UNIT)
1 FOCUS MOTOR
2 FOCUS MOTOR
5
6
7
8
9
10
11
12
13
14

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

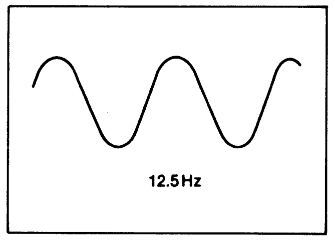
AUTO FOCUS CIRCUIT TP (Test Point) WAVEFORM (REF. NO. 700 Series)



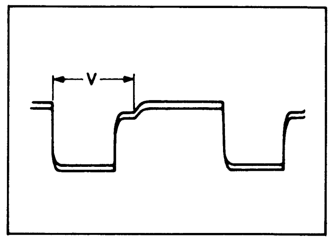
TP702 STOP
2.0V/20μsec. div. 4.5Vp-p



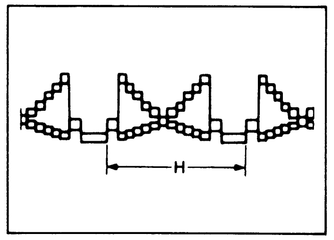
TP703 STOP
2.0V/20μsec. div. 5.0Vp-p



TP704 STOP
10.0V/20msec. div. 30Vp-p

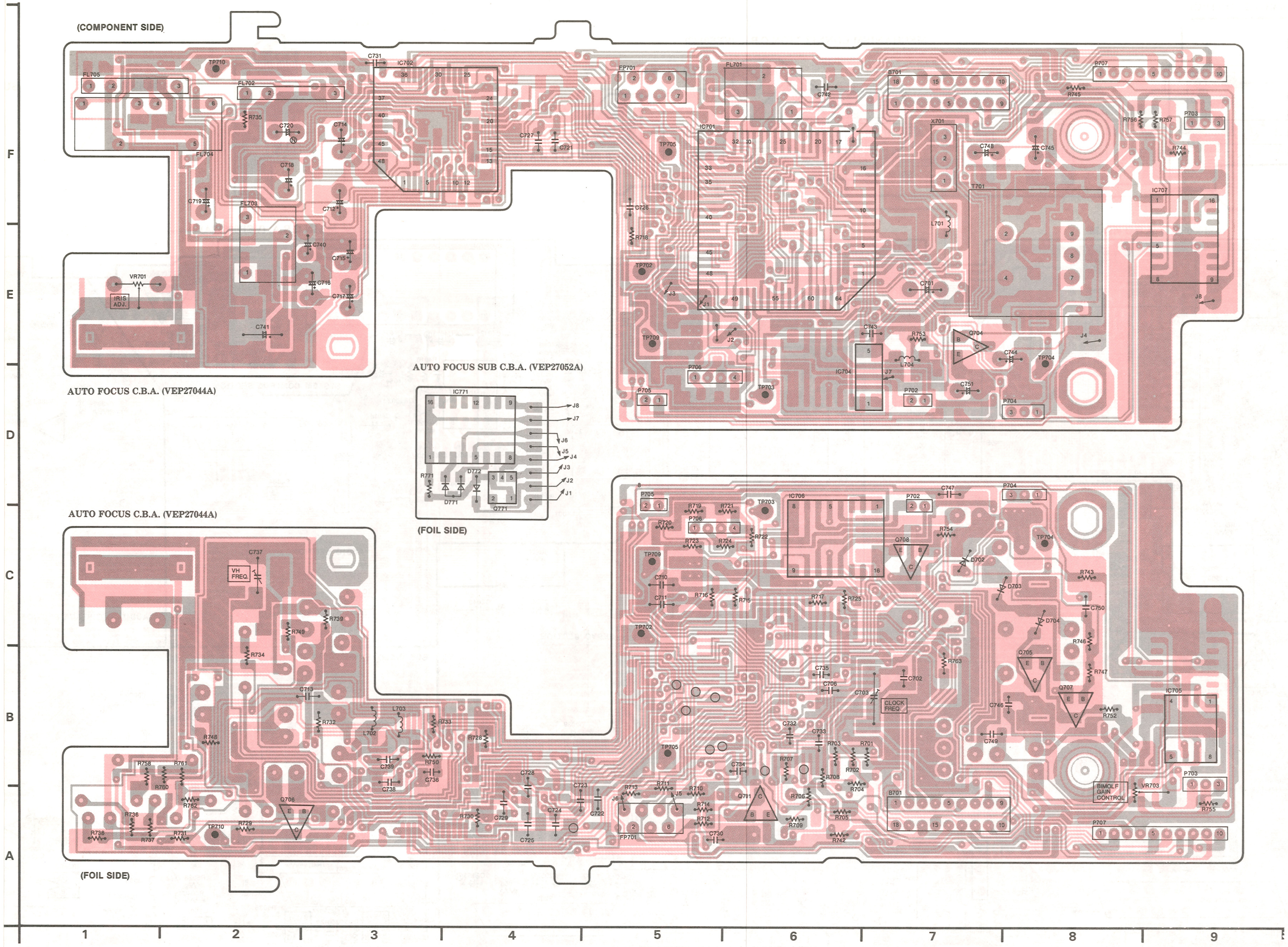


TP705 STOP
0.5V/5msec. div. 1.3Vp-p



TP710 STOP
0.1V/20μsec. div. 0.3Vp-p

3-18. AUTO FOCUS C.B.A. (VEP27044A) & AUTO FOCUS SUB C.B.A. (VEP27052A)


(COMPONENT SIDE)
AUTO FOCUS C.B.A. (VEP27044A)
AUTO FOCUS SUB C.B.A. (VEP27052A)
(FOIL SIDE)
AUTO FOCUS C.B.A. (VEP27044A)
(FOIL SIDE)
IRIS ADJ.
VH FREQ.
CLOCK FREQ.
BIMOLF GAIN CONTROL
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9

AUTO FOCUS C.B.A.	
Transistor	
Q701	A-6 Ⓕ
Q704	E-7 ©
Q705	B-8 Ⓕ
Q706	A-2 Ⓕ
Q707	B-8 Ⓕ
Q708	C-7 Ⓕ
Integrated Circuit	
IC701	F-6 ©
IC702	F-3 ©
IC704	D-6 ©
IC705	B-9 Ⓕ
IC706	C-6 Ⓕ
IC707	F-9 ©
Test Point	
TP702	C-5 Ⓕ
TP702	E-5 ©
TP703	A-6 Ⓕ
TP703	D-6 ©
TP704	C-8 Ⓕ
TP704	E-8 ©
TP705	B-5 Ⓕ
TP705	F-5 ©
TP709	C-5 Ⓕ
TP709	E-5 ©
TP710	A-2 Ⓕ
TP710	F-2 ©
Adjustment	
C703	B-7 Ⓕ
C737	C-2 Ⓕ
VR701	E-1 ©
VR703	B-9 Ⓕ
Connector	
B701	A-7 Ⓕ
B701	F-7 ©
FP701	A-5 Ⓕ
FP701	F-5 ©
P702	C-7 Ⓕ
P702	D-7 ©
P703	B-9 Ⓕ
P703	F-9 ©
P704	D-8 ©
P704	D-8 Ⓕ
P705	D-5 ©
P705	D-5 Ⓕ
P706	C-5 Ⓕ
P706	E-5 ©
P707	A-8 Ⓕ
P707	F-8 ©

ADDRESS INFORMATION
© ... COMPONENT SIDE
Ⓕ ... FOIL SIDE

Next Page:
MAIN C.B.A. Section

POWER SUPPLY Section on MAIN C.B.A.	
Transistor	
Q1001	A-20 Ⓕ
Q1002	B-1 Ⓒ
Q1003	A-3 Ⓒ
Q1004	B-21 Ⓕ
Q1005	B-19 Ⓕ
Q1006	C-15 Ⓕ
Q1007	B-21 Ⓕ
Q1008	B-19 Ⓕ
Q1011	B-18 Ⓕ
Transistor & Resistor	
QR1001	A-19 Ⓕ
QR1002	B-4 Ⓒ
Integrated Circuit	
IC1001	A-2 Ⓒ
IC1001	A-21 Ⓕ
IC1002	A-2 Ⓒ
IC1002	A-20 Ⓕ
IC1003	A-3 Ⓒ
IC1004	A-19 Ⓕ
IC1005	C-15 Ⓕ
Test Point	
TP1001	B-19 Ⓕ
TP1002	C-16 Ⓕ
TP1003	B-21 Ⓕ
TP1004	B-21 Ⓕ
TP1005	B-18 Ⓕ
Adjustment	
VR1001	A-19 Ⓕ
VR1002	B-20 Ⓕ
VR1003	A-20 Ⓕ
Connector	
P1001	B-1 Ⓒ
P1001	B-21 Ⓕ
P1003	A-1 Ⓒ
P1003	A-21 Ⓕ

ADDRESS INFORMATION
Ⓒ... COMPONENT SIDE
Ⓕ... FOIL SIDE

SERVO Section on MAIN C.B.A.	
Transistor	
Q2001	B-5 Ⓒ
Q2002	B-6 Ⓒ
Q2003	B-6 Ⓒ
Transistor & Resistor	
QR2005	C-18 Ⓕ
Integrated Circuit	
IC2001	D-4 Ⓒ
IC2002	C-17 Ⓕ
IC2005	B-5 Ⓒ
IC2006	B-17 Ⓕ
Test Point	
TP2001	C-16 Ⓕ
TP2002	D-18 Ⓕ
TP2003	E-18 Ⓕ
TP2004	C-17 Ⓕ
TP GND	C-19 Ⓕ
Adjustment	
VR2001	C-17 Ⓕ
Connector	
P2001	A-17 Ⓕ
P2001	A-5 Ⓒ
P2002	A-18 Ⓕ
P2002	A-4 Ⓒ

ADDRESS INFORMATION
Ⓒ... COMPONENT SIDE
Ⓕ... FOIL SIDE

SYSTEM CONTROL Section on MAIN C.B.A.	
Transistor	
Q1501	E-5
Q1502	F-9
Q1503	F-4
Q6001	C-20 Ⓕ
Q6002	E-19 Ⓕ
Q6003	E-21 Ⓕ
Q6005	C-19 Ⓕ
Q6006	D-21 Ⓕ
Q6007	D-21 Ⓕ
Transistor & Resistor	
QR6001	C-20 Ⓕ
QR6002	C-19 Ⓕ
QR6003	C-2 Ⓒ
QR6004	D-20 Ⓕ
QR6005	C-1 Ⓒ
QR6006	C-20 Ⓕ
QR6009	D-21 Ⓕ
QR6010	C-1 Ⓒ
QR6011	D-21 Ⓕ
QR6014	D-21 Ⓕ
QR6017	D-21 Ⓕ
QR6019	C-21 Ⓕ
QR6020	D-19 Ⓕ
QR6022	E-19 Ⓕ
QR6027	D-21 Ⓕ
QR6029	C-17 Ⓕ
QR6030	E-8 Ⓒ
QR6031	D-8 Ⓒ
QR6032	E-7 Ⓒ
QR6033	D-15 Ⓕ
QR6034	E-8 Ⓒ
QR6035	E-19 Ⓕ
Integrated Circuit	
IC6001	C-2 Ⓒ
IC6002	D-2 Ⓒ
IC6003	E-1 Ⓒ
IC6004	C-21 Ⓕ
IC6005	D-18 Ⓕ
IC6005	D-4 Ⓒ
IC6006	C-20 Ⓕ
IC6006	D-20 Ⓕ
IC6007	D-1 Ⓒ
IC6008	E-15 Ⓕ
Adjustment	
C6011	C-21 Ⓕ
VR6001	C-19 Ⓕ
Connector	
P1503	E-4
P1504	F-4
P6002	E-10 Ⓒ
P6002	E-12 Ⓕ
P6003	E-6 Ⓒ
P6003	F-16 Ⓕ
P6004	D-19 Ⓕ
P6004	D-4 Ⓒ
P6005	C-19 Ⓕ
P6005	C-3 Ⓒ
P6006	A-10 Ⓒ
P6006	A-12 Ⓕ
P6007	C-20 Ⓕ
P6007	C-3 Ⓒ
P6010	C-1 Ⓒ
P6010	C-21 Ⓕ
P6011	D-1 Ⓒ
P6011	E-21 Ⓕ
P6012	C-19 Ⓕ
P6012	C-4 Ⓒ
P6013	E-1 Ⓒ
P6013	E-21 Ⓕ
P6014	C-19 Ⓕ
P6014	C-4 Ⓒ
P6016	E-13 Ⓕ
P6016	E-9 Ⓒ
P6501	E-16

ADDRESS INFORMATION
Ⓒ... COMPONENT SIDE
Ⓕ... FOIL SIDE

SUB VIDEO & HEAD AMP Section on MAIN C.B.A.	
Transistor	
Q3801	C-14 Ⓕ
Q3802	B-8 Ⓒ
Q3803	B-12 Ⓕ
Q3804	A-12 Ⓕ
Q3805	C-10 Ⓒ
Q3806	C-10 Ⓒ
Q3808	A-15 Ⓕ
Q5001	B-16 Ⓕ
Q5002	A-15 Ⓕ
Q5003	A-8 Ⓒ
Q5004	A-16 Ⓕ
Q5005	A-16 Ⓕ
Transistor & Resistor	
QR3801	B-12 Ⓕ
QR3802	B-12 Ⓕ
QR3803	A-12 Ⓕ
QR3804	A-12 Ⓕ
QR3805	B-14 Ⓕ
QR3806	A-14 Ⓕ
QR3807	A-15 Ⓕ
QR3808	A-8 Ⓒ
QR3809	B-14 Ⓕ
QR5001	B-16 Ⓕ
QR5002	A-7 Ⓒ
QR5003	A-6 Ⓒ
Integrated Circuit	
IC5001	B-7 Ⓒ
Test Point	
TP3801	C-16 Ⓕ
TP3802	C-16 Ⓕ
TP3807	C-16 Ⓕ
TP5001	A-15 Ⓕ
TP5002	A-16 Ⓕ
TP5003	A-16 Ⓕ
Connector	
P3801	C-12 Ⓕ
P3082	D-11 Ⓒ
P3802	D-12 Ⓕ
P3803	B-13 Ⓕ
P3803	B-9 Ⓒ
P3804	C-10 Ⓒ
P3804	C-12 Ⓕ
P3805	A-10 Ⓒ
P3805	A-12 Ⓕ
P5001	A-16 Ⓕ
P5001	A-7 Ⓒ

ADDRESS INFORMATION
Ⓒ... COMPONENT SIDE
Ⓕ... FOIL SIDE

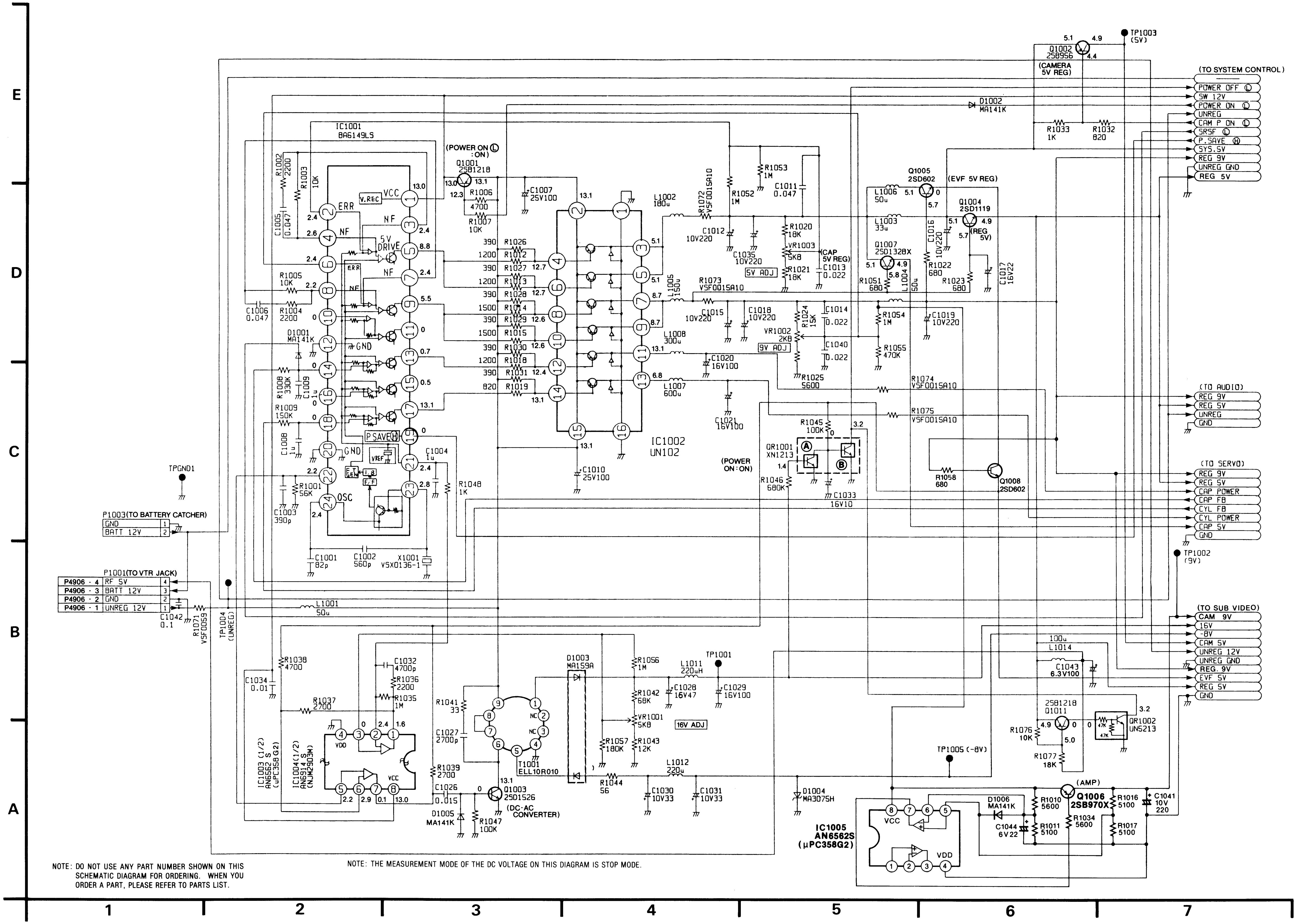
AUDIO INTERFACE Section on MAIN C.B.A.	
Transistor	
Q4507	A-13 Ⓕ
Q4508	A-10 Ⓒ
Q4509	A-13 Ⓕ
Q4522	A-13 Ⓕ
Q4523	A-13 Ⓕ
Q4524	B-14 Ⓕ
Q4801	E-12 Ⓕ
Q4802	D-12 Ⓕ
Q4803	E-11 Ⓒ
Q4804	D-11 Ⓒ
Q4805	E-13 Ⓕ
Q4807	D-8 Ⓒ
Q4808	D-9 Ⓒ
Q4809	C-13 Ⓕ
Q4810	C-13 Ⓕ
Transistor & Resistor	
QR4507	A-10 Ⓒ
QR4508	A-13 Ⓕ
QR4512	A-9 Ⓒ
QR4803	C-13 Ⓕ
QR4804	B-13 Ⓕ
QR4805	C-9 Ⓒ
QR4806	D-15 Ⓕ
QR4807	D-9 Ⓒ
QR4808	E-9 Ⓒ
Integrated Circuit	
IC4801	D-10 Ⓒ
IC4804	C-13 Ⓕ
IC4805	D-14 Ⓕ
Test Point	
TP4505	C-16 Ⓕ
TP4805	C-16 Ⓕ
TP4806	C-16 Ⓕ
Adjustment	
VR4503	C-16 Ⓕ
Connector	
P4801	D-11 Ⓒ
P4801	D-12 Ⓕ
P4804	B-10 Ⓒ
P4804	B-13 Ⓕ

ADDRESS INFORMATION
Ⓒ... COMPONENT SIDE
Ⓕ... FOIL SIDE

AUDIO Section on MAIN C.B.A.	
Transistor	
Q1504	F-10
Q4001	C-17 Ⓕ
Q4004	D-19 Ⓕ
Q4005	D-16 Ⓕ
Transistor & Resistor	
QR4002	D-6 Ⓒ
QR4003	C-18 Ⓕ
QR4004	D-16 Ⓕ
Integrated Circuit	
IC4001	D-6 Ⓒ
IC4002	D-17 Ⓕ
IC4003	C-7 Ⓒ
Test Point	
TP4001	C-17 Ⓕ
TP4002	C-18 Ⓕ
TP4003	D-17 Ⓕ
Adjustment	
C4002	D-5 Ⓒ
VR4001	D-16 Ⓕ
Connector	
P4001	D-16 Ⓕ
P4001	D-7 Ⓒ
P4002	D-18 Ⓕ
P4002	D-5 Ⓒ
P4003	D-15 Ⓕ
P4003	D-7 Ⓒ
P4004	C-16 Ⓕ
P4004	C-7 Ⓒ

ADDRESS INFORMATION
Ⓒ... COMPONENT SIDE
Ⓕ... FOIL SIDE

3-20. POWER SUPPLY SCHEMATIC DIAGRAM


E
D
C
B
A
1
2
3
4
5
6
7
IC1001
BA6149LS
ERR
NF
5V DRIVE
GND
P SAVE
OSC
VCC
V.REC
(POWER ON Ⓛ :ON)
Q1001
2SB1218
R1006
4700
R1007
10K
C1007
25V100
IC1002
UN102
L1002
180u
L1005
150u
L1008
300u
L1007
600u
R1072
VSF0015A10
R1073
VSF0015A10
R1074
VSF0015A10
R1075
VSF0015A10
R1053
1M
R1052
1M
C1011
0.047
R1020
18K
VR1003
5K8
5V ADJ
R1021
18K
(CAP 5V REG)
C1013
0.022
C1012
10V220
C1035
10V220
C1015
10V220
C1018
10V220
VR1002
2K8
9V ADJ
R1024
15K
C1014
0.022
C1040
0.022
R1025
5600
C1020
16V100
C1021
16V100
C1010
25V100
R1045
100K
QR1001
XN1213
(POWER ON:ON)
R1046
680K
C1033
16V10
Q1002
2SB956
(CAMERA 5V REG)
TP1003
(5V)
D1002
MA141K
R1033
1K
R1032
820
Q1005
2SD602
(EVF 5V REG)
L1006
50u
L1003
33u
Q1004
2SD1119
(REG 5V)
Q1007
2SD1328X
R1051
680
L1004
50u
C1016
10V220
R1022
680
R1023
680
C1017
16V22
R1054
1M
C1019
10V220
R1055
470K
R1058
680
Q1008
2SD602
(TO SYSTEM CONTROL)
POWER OFF Ⓛ
SW 12V
POWER ON Ⓛ
UNREG
CAM P ON Ⓛ
SRSF Ⓛ
P.SAVE Ⓗ
SYS.5V
REG 9V
UNREG GND
REG 5V
(TO AUDIO)
REG 9V
REG 5V
UNREG
GND
(TO SERVO)
REG 9V
REG 5V
CAP POWER
CAP FB
CYL FB
CYL POWER
CAP 5V
GND
TP1002
(9V)
(TO SUB VIDEO)
CAM 9V
16V
-8V
CAM 5V
UNREG 12V
UNREG GND
REG 9V
EVF 5V
REG 5V
GND
TPGND1
P1003(TO BATTERY CATCHER)
GND
BATT 12V
P1001(TO VTR JACK)
P4906 · 4
RF 5V
P4906 · 3
BATT 12V
P4906 · 2
GND
P4906 · 1
UNREG 12V
C1042
0.1
R1071
VSF0059
TP1004
(UNREG)
L1001
50u
R1002
2200
R1003
10K
C1005
0.047
R1005
10K
C1006
0.047
R1004
2200
D1001
MA141K
R1008
330K
C1009
0.1u
R1009
150K
C1008
1u
R1001
56K
C1003
390p
C1001
82p
C1002
560p
X1001
VSX0136-1
C1004
1u
R1048
1K
R1026
R1012
R1027
R1013
R1028
R1014
R1029
R1015
R1030
R1018
R1031
R1019
R1038
4700
C1034
0.01
C1032
4700p
R1036
2200
R1035
1M
R1037
2700
IC1003 (1/2)
AN6562 S
(uPC358G2)
IC1004(1/2)
AN6514 S
(NJM2903M)
VDD
VCC
R1041
33
C1027
2700p
R1039
2700
C1026
0.015
D1005
MA141K
Q1003
2SD1526
(DC-AC CONVERTER)
R1047
100K
T1001
ELL10R010
D1003
MA159A
R1056
1M
R1042
68K
VR1001
5K8
16V ADJ
R1057
180K
R1043
12K
R1044
56
L1011
220uH
TP1001
C1028
16V47
C1029
16V100
L1012
220u
C1030
10V33
C1031
10V33
D1004
MA3075H
IC1005
AN6562S
(uPC358G2)
TP1005 (-8V)
L1014
100u
C1043
6.3V100
2SB1218
Q1011
R1076
10K
R1077
18K
QR1002
UN5213
(AMP)
Q1006
2SB970X
D1006
MA141K
C1044
6V22
R1010
5600
R1011
5100
R1034
5600
R1016
5100
R1017
5100
C1041
10V
220

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

Next Page:
SERVO Section

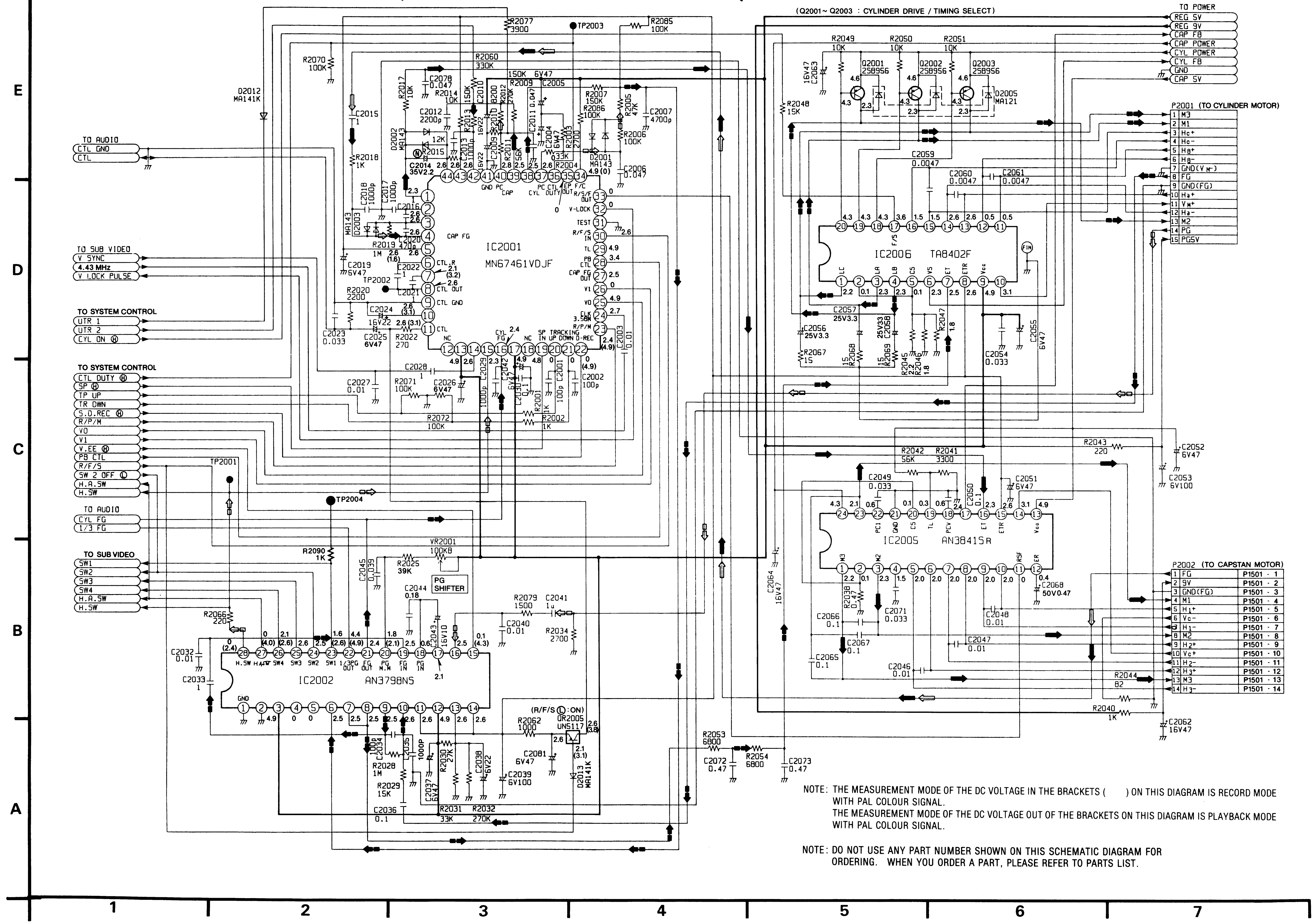
3-21. SERVO SCHEMATIC DIAGRAM

CAPSTAN SERVO SPEED LOOP.

CYLINDER SERVO SPEED LOOP.

CAPSTAN SERVO PHASE LOOP.

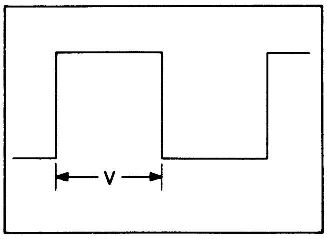
CYLINDER SERVO PHASE LOOP.


(Q2001~ Q2003 : CYLINDER DRIVE / TIMING SELECT)
IC2001 MN67461VDJF
IC2002 AN3798NS
IC2005 AN3841SR
IC2006 TA8402F
Q2001 2SB956
Q2002 2SB956
Q2003 2SB956
D2005 MA121
D2012 MA141K
D2013 MA141K
Q2005 UN5117
(R/F/S Ⓛ:ON)
PG SHIFTER
VR2001 100KB
TP2001
TP2002
TP2003
TP2004
TO AUDIO
CTL GND
CTL
TO SUB VIDEO
V SYNC
4.43 MHz
V LOCK PULSE
TO SYSTEM CONTROL
UTR 1
UTR 2
CYL ON Ⓗ
TO SYSTEM CONTROL
CTL DUTY Ⓗ
SP Ⓗ
TP UP
TR DWN
S.D.REC Ⓗ
R/P/M
V0
V1
V.EE Ⓗ
PB CTL
R/F/S
SW 2 OFF Ⓛ
H.A.SW
H.SW
TO AUDIO
CYL FG
1/3 FG
TO SUB VIDEO
SW1
SW2
SW3
SW4
H.A.SW
H.SW
TO POWER
REG 5V
REG 9V
CAP FB
CAP POWER
CYL POWER
CYL FB
GND
CAP 5V
P2001 (TO CYLINDER MOTOR)
1 M3
2 M1
3 Hc+
4 Hc-
5 HB+
6 HB-
7 GND(V M-)
8 FG
9 GND(FG)
10 Ha+
11 VM+
12 Ha-
13 M2
14 PG
15 PG5V
P2002 (TO CAPSTAN MOTOR)
1 FG P1501 - 1
2 9V P1501 - 2
3 GND(FG) P1501 - 3
4 M1 P1501 - 4
5 H1+ P1501 - 5
6 Vc- P1501 - 6
7 H1- P1501 - 7
8 M2 P1501 - 8
9 H2+ P1501 - 9
10 Vc+ P1501 - 10
11 H2- P1501 - 11
12 H3+ P1501 - 12
13 M3 P1501 - 13
14 H3- P1501 - 14
E
D
C
B
A
1
2
3
4
5
6
7

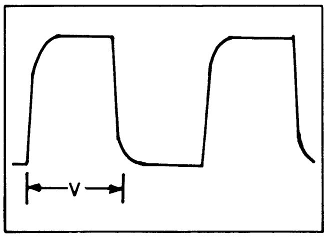
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS (   ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

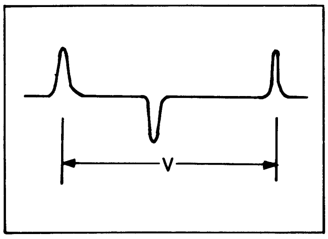
SERVO CIRCUIT TP (Test Point)
WAVEFORM (REF. NO. 2000 Series)



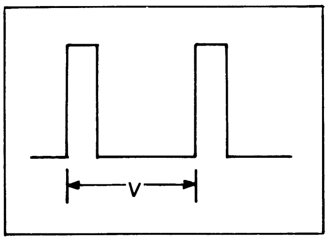
TP2001 PLAY/REC
5.0V/10msec. div. 5.0Vp-p



TP2002 REC
1.0V/10msec. div. 5.0Vp-p



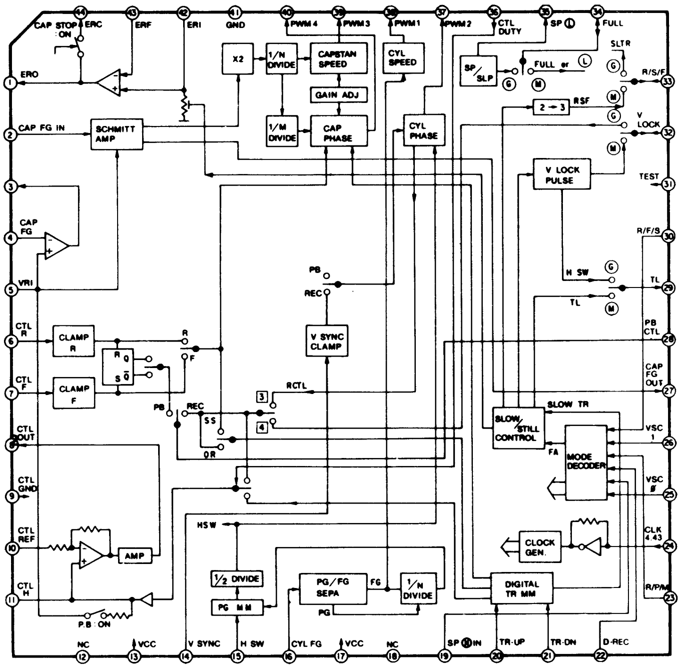
TP2002 PLAY
2.0V/10msec. div. 4.8Vp-p



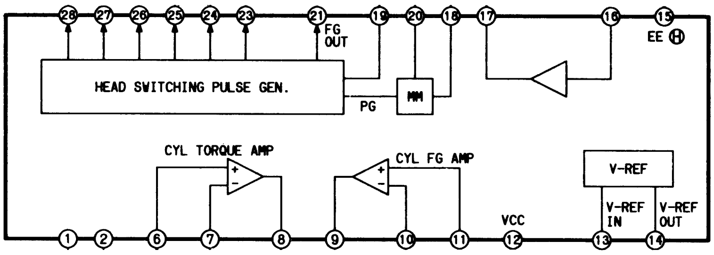
TP2004 PLAY/REC
5.0V/20msec. div. 5.0Vp-p

IC BLOCK

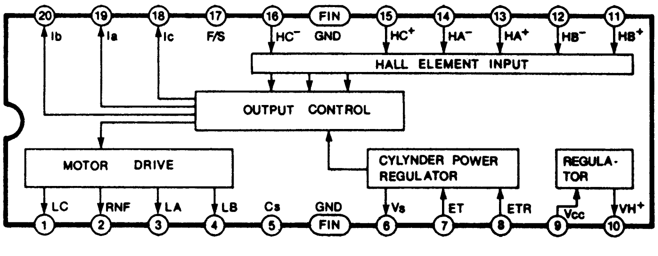
IC2001 (MN67461VDJF)


CAP STOP ERC
ON
ERF
ERI
GND
PWM 4
PWM 3
PWM 1
PWM 2
CTL DUTY
SP ①
FULL
ERO
CAP FG IN
SCHMITT AMP
CAP FG
VRI
CTL R
CTL F
CTL OUT
CTL GND
CTL REF
CTL H
X2
1/N DIVIDE
CAPSTAN SPEED
GAIN ADJ
1/M DIVIDE
CAP PHASE
CYL SPEED
CYL PHASE
SP/SLP
FULL or Ⓛ
SLTR
R/S/F
RSF
2→3
V LOCK
V LOCK PULSE
TEST
R/F/S
H SW
TL
PB CTL
CAP FG OUT
PB
REC
V SYNC CLAMP
CLAMP R
CLAMP F
R
F
S
Q
RCTL
SS
OR
SLOW TR
SLOW/STILL CONTROL
FA
MODE DECODER
VSC 1
VSC 2
CLK 4.43
CLOCK GEN.
R/P/M
AMP
P.B·ON
HSW
1/2 DIVIDE
PG MM
PG/FG SEPA
FG
PG
1/N DIVIDE
DIGITAL TR MM
NC
VCC
V SYNC
H SW
CYL FG
VCC
NC
SP Ⓧ IN
TR·UP
TR·DN
D·REC

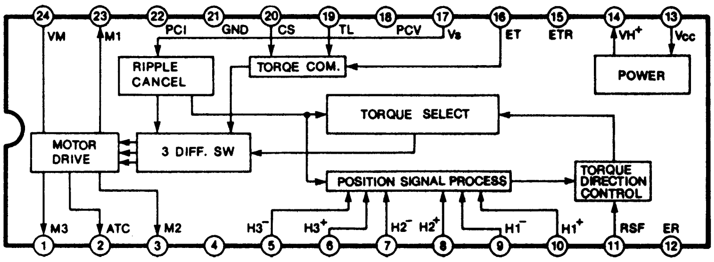
IC2002 (AN3798HS)


FG OUT
EE Ⓗ
HEAD SWITCHING PULSE GEN.
PG
MM
CYL TORQUE AMP
CYL FG AMP
V-REF
VCC
V-REF IN
V-REF OUT

IC2006 (TA8402)


Ib
Ia
Ic
F/S
HC⁻
FIN
GND
HC⁺
HA⁻
HA⁺
HB⁻
HB⁺
HALL ELEMENT INPUT
OUTPUT CONTROL
MOTOR DRIVE
CYLYNDER POWER REGULATOR
REGULA-TOR
LC
RNF
LA
LB
Cs
GND
Vs
ET
ETR
Vcc
VH⁺

IC2006 (AN3841SR)


VM
M1
PCI
GND
CS
TL
PCV
Vs
ET
ETR
VH⁺
Vcc
RIPPLE CANCEL
TORQE COM.
POWER
TORQUE SELECT
MOTOR DRIVE
3 DIFF. SW
POSITION SIGNAL PROCESS
TORQUE DIRECTION CONTROL
M3
ATC
M2
H3⁻
H3⁺
H2⁻
H2⁺
H1⁻
H1⁺
RSF
ER

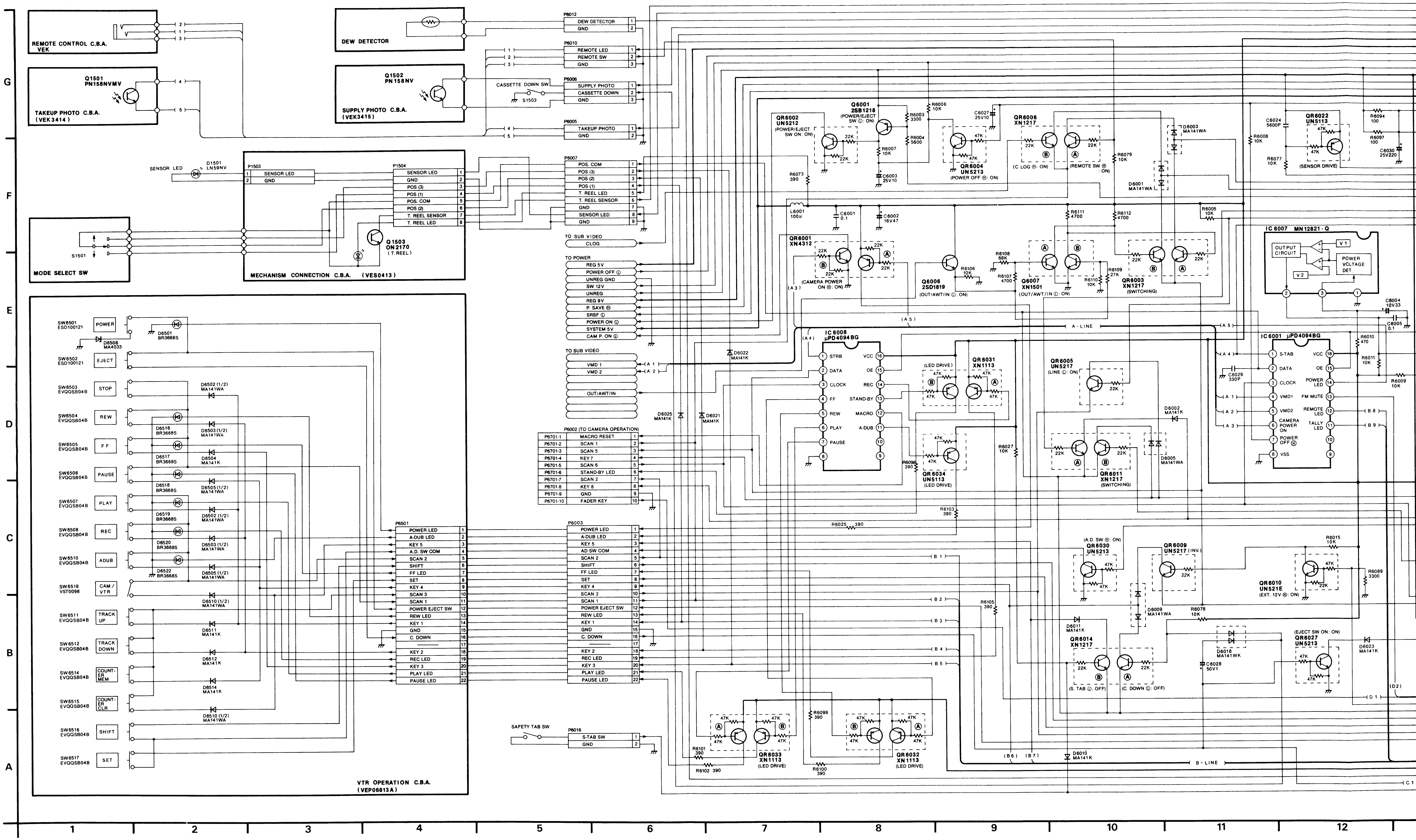
SYSTEM CONTROL ICs DC VOLTAGE CHART

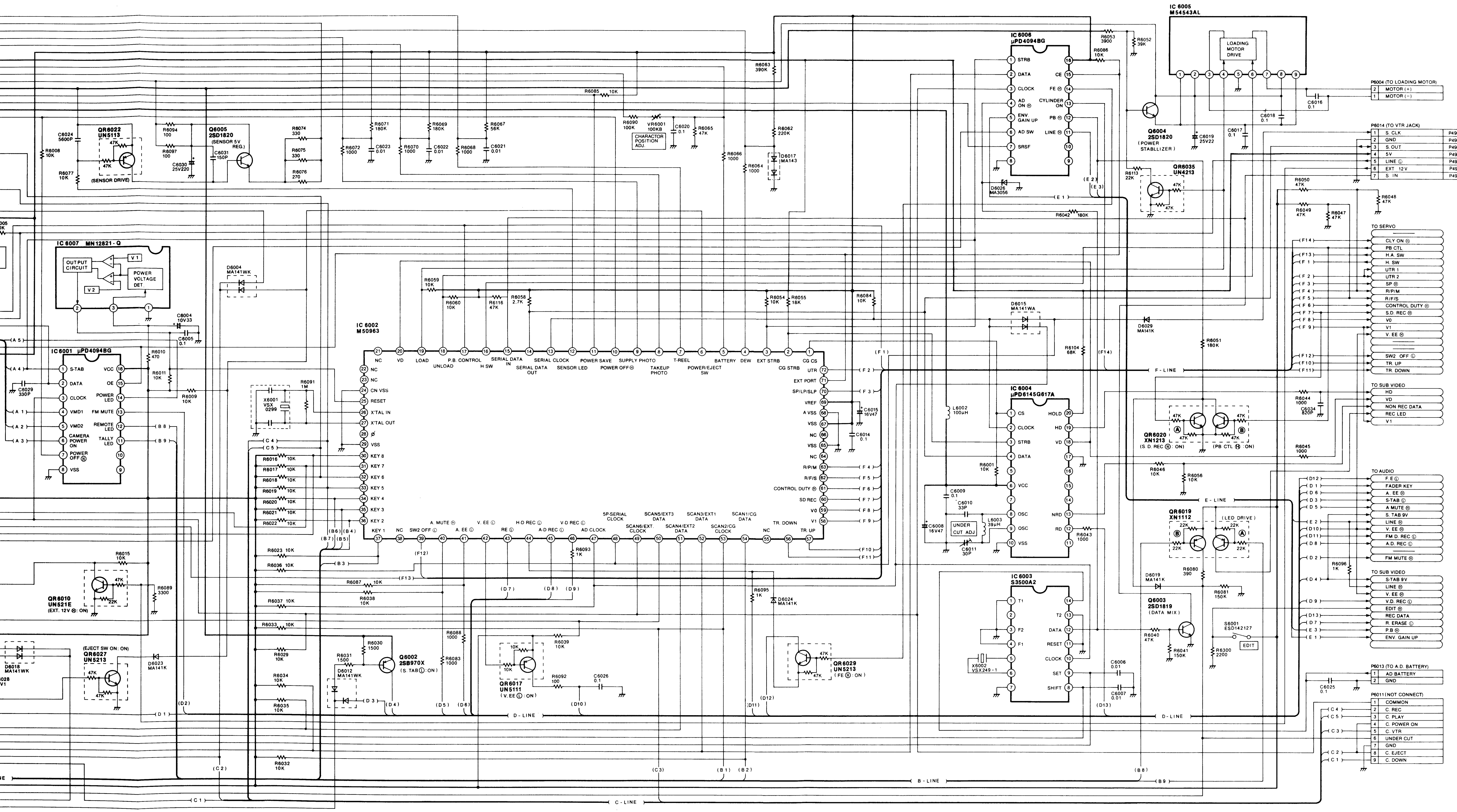
REF. NO.	IC6001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
STOP	0	4.7	4.7	0	0	4.9	4.8	0	4.8	4.3	4.9	4.9	4.9	0	4.9	4.9				
PLAY	0	0	4.7	0	0	0	4.7	0	4.8	4.3	4.9	4.9	0	0	4.9	4.9				
F.F	0	4.7	4.7	0	0	4.8	4.7	0	4.8	4.3	4.8	4.9	4.8	0	4.9	4.9				
REF. NO.	IC6002																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	5.0	0	0	0	3.2	4.9	4.6	4.8	4.9	0	0	8.6	4.8	3.6	3.6	0	0	0	0	0.1
PLAY	5.0	0	0	0	3.2	4.9	4.6	4.8	4.8	0	0	8.6	3.8	3.6	3.6	3.4	2.3	0	0	1.0
F.F	5.0	0	0	0	3.2	4.9	4.6	4.8	4.8	0	0	6.3	4.7	3.6	3.6	0	3.9	0	0	0.7
REF. NO.	IC6002																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	0	0	0	0	4.9	2.2	1.0	3.5	0	4.9	4.7	4.7	4.7	4.9	4.7	4.9	4.9	0	0	4.5
PLAY	0.9	0	0	0	4.9	2.1	0.9	3.5	0	4.9	4.7	4.7	4.7	4.9	4.9	4.7	4.7	0	4.7	0
F.F	0	0	0	0	4.9	2.1	1.0	3.3	0	4.9	4.7	4.7	4.7	4.9	4.7	4.9	4.9	0	4.8	4.5
REF. NO.	IC6002																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	4.3	0	8.6	4.5	8.6	5.0	4.9	4.8	4.7	4.7	4.7	4.8	4.9	4.9	0	0	0	0	4.9	0
PLAY	0	4.9	8.6	4.5	8.6	5.0	3.8	4.8	4.6	4.7	4.7	4.8	4.9	4.9	0	0	0	0	4.9	0
F.F	4.3	0	8.6	4.5	8.6	5.0	4.2	4.8	4.7	4.7	4.7	4.7	4.9	4.9	0	0	0	4.9	4.9	0
REF. NO.	IC6002																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72								
STOP	0	0	4.9	0	0	0	4.9	0	4.9	4.8	4.9	1.8								
PLAY	0	2.5	2.5	1.1	0	1.5	4.9	0	4.9	4.8	4.9	2.6								
F.F	0	2.5	4.9	0.1	0	0.1	4.9	0	4.9	2.5	4.9	2.5								
REF. NO.	IC6003																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
STOP	0	0.1	0	0	0	0	0	0	0	0	0	0.3	0	0						
PLAY	0	0.2	0	0	0	0	0	0	0	0	0	0.3	0	0						
F.F	0	0	0	0	0	0.4	0	0.7	0.6	0.3	0	0.4	0	0.3						
REF. NO.	IC6004																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	5.0	4.8	0	3.7	0	5.0	1.9	2.4	2.4	0	0	0	0	0	0	0	0	0.1	0.1	5.0
PLAY	5.0	3.8	0	3.7	0	5.0	1.9	2.4	2.4	0	0	0	0	0	0	0	0	0.1	0.1	5.0
F.F	0	4.8	0	3.7	0	5.0	1.9	2.4	2.4	0	0	0	0	0	0	0	0	0	0	5.0
REF. NO.	IC6005																			
MODE	1	2	3	4	5	6	7	8	9											
STOP	7.2	13.1	0	0	0	0	0	13.1	7.2											
PLAY	7.2	13.0	1.6	0	0	0	1.0	13.0	7.2											
F.F	7.2	13.0	0	0	0	0	0	13.0	7.2											
REF. NO.	IC6006																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
STOP	0	4.7	4.7	1.5	4.7	4.9	4.9	0	0.1	3.8	0.1	0	0	0	4.9	4.9				
PLAY	0	4.7	4.7	1.5	4.9	0	4.9	0	1.7	3.0	0.1	4.8	4.9	0	4.9	4.9				
F.F	0	4.7	4.7	1.2	4.7	4.9	4.9	0	0.1	3.0	0.1	0	0	0	4.9	4.9				
REF. NO.	IC6007																			
MODE	1	2	3																	
STOP	0	4.9	4.9																	
PLAY	0	4.9	4.9																	
F.F	0	4.9	4.9																	
REF. NO.	IC6008																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
STOP	0	4.7	4.7	4.9	4.9	4.9	4.9	0	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9				
PLAY	0	4.7	4.7	4.9	4.9	0	4.9	0	3.3	4.9	4.9	0	4.9	4.9	4.9	4.9				
F.F	0	4.7	4.7	0	4.9	4.9	4.9	0	3.3	4.4	4.9	0	4.9	4.9	4.9	4.9				

SYSTEM CONTROL TRANSISTORs DC VOLTAGE CHART

REF. NO.	Q6001			Q6002			Q6003			Q6004			Q6005			Q6007(A)		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	13.1	7.2	13.1	8.7	8.7	8.0	0	3.6	0.1	7.2	13.1	7.8	−0.5	13.1	0.1	0	4.9	0
PLAY	13.0	7.1	13.0	8.6	8.6	7.9	0	3.6	0.1	7.2	13.0	7.8	−1.0	13.0	−0.5	0	4.9	0
F.F	13.0	7.2	13.0	8.6	8.6	7.9	0	3.6	0.1	7.1	13.0	7.8	2.7	12.1	2.8	0	4.9	0
REF. NO.	Q6007(B)																	
MODE	E	C	B															
STOP	0	4.9	0															
PLAY	0	4.9	0															
F.F	0	4.9	0															
REF. NO.	QR6001(A)			QR6001(B)			QR6002			QR6003(A)			QR6003(B)			QR6004		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	0	4.9	4.9	4.8	0	0	0	7.2	4.7	4.4	4.8	4.7	4.4	4.9	0	10.1	0
PLAY	0	5.0	0	4.9	4.8	0	0	0	7.1	4.7	4.4	4.8	4.7	4.4	2.3	0	10.0	0
F.F	0	0	4.9	4.9	4.8	0	0	0	7.1	4.7	4.5	4.8	4.7	4.4	4.8	0	10.0	0
REF. NO.	QR6005			QR6006(A)			QR6006(B)			QR6009			QR6010			Q6011(A)		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	4.7	4.4	4.9	4.9	4.6	4.9	4.9	4.6	4.9	4.7	4.6	0	0	0	13.4	4.7	4.5	3.9
PLAY	4.7	4.6	4.9	4.9	4.6	4.9	4.9	4.6	4.9	4.7	5.2	0	0	0	13.4	4.7	5.0	2.3
F.F	4.7	4.4	4.8	4.9	4.6	4.9	4.9	4.6	4.9	4.7	4.6	0	0	0	13.4	4.7	4.7	3.9
REF. NO.	QR6011(B)			QR6014(A)			QR6014(B)			QR6017			QR6019(A)			QR6019(B)		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	4.7	4.6	0	4.7	4.6	0.5	4.7	4.7	0.6	4.9	4.9	0	4.9	0	4.9	4.9	1.9	4.9
PLAY	4.6	5.2	3.6	4.7	5.2	0.5	4.7	5.2	0.6	4.9	0.1	4.9	4.9	0	4.9	4.9	2.9	4.9
F.F	4.7	4.6	0	4.7	4.6	0.5	4.7	4.7	0.6	4.9	4.9	0	4.9	0	4.9	4.9	0.1	4.9
REF. NO.	QR6020(A)			QR6020(B)			QR6022			QR6027			QR6029			QR6030		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	0	0	0	0	0	8.7	0	8.6	−0.2	4.7	0.2	0	8.0	0	0	0	4.9
PLAY	0	2.2	0	0	2.2	3.5	8.7	0	8.6	−1.2	4.8	−1.2	0	8.0	0	0	1.8	0
F.F	0	0	0	0	0	0	8.6	2.8	6.8	−1.9	5.5	−1.9	0	8.0	0	0	0	4.9
REF. NO.	QR6031(A)			QR6031(B)			QR6032(A)			QR6032(B)			QR6033(A)			QR6033(B)		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	4.9	−0.1	4.9	4.9	0	4.9	4.9	−0.1	4.9	4.9	−0.1	4.9	4.9	0.1	4.9	4.9	0.1	4.9
PLAY	4.9	−0.5	4.9	4.9	0.5	4.9	4.9	−0.7	4.9	4.9	−0.6	4.9	4.9	0	4.9	4.9	4.8	0
F.F	4.9	−0.6	4.9	4.9	0	4.9	4.9	4.8	0	4.9	0	4.9	4.9	−0.5	4.9	4.9	−0.4	4.9
REF. NO.	QR6034																	
MODE	E	C	B															
STOP	4.9	0	4.9															
PLAY	4.9	−1.0	4.9															
F.F	4.9	0	4.9															

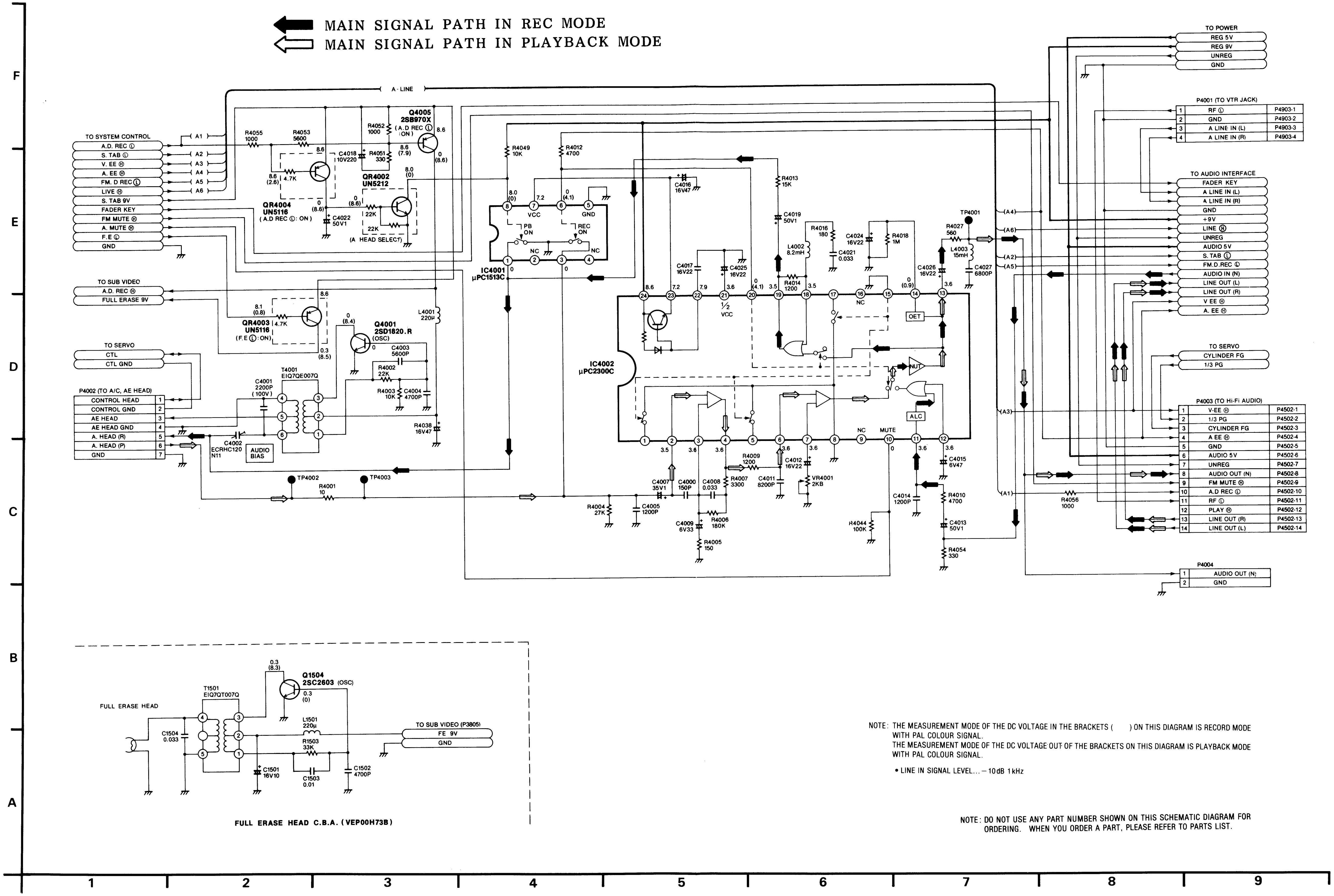
3-22. SYSTEM CONTROL SCHEMATIC DIAGRAM


G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12
REMOTE CONTROL C.B.A.
VEK
TAKEUP PHOTO C.B.A.
(VEK3414)
Q1501
PN158NVMV
DEW DETECTOR
SUPPLY PHOTO C.B.A.
(VEK3415)
Q1502
PN158NV
CASSETTE DOWN SW
S1503
P6012
DEW DETECTOR
GND
P6010
REMOTE LED
REMOTE SW
GND
P6006
SUPPLY PHOTO
CASSETTE DOWN
GND
P6005
TAKEUP PHOTO
GND
SENSOR LED
D1501
LN59NV
P1503
P1504
SENSOR LED
GND
POS (3)
POS (1)
POS. COM
POS (2)
T. REEL SENSOR
T. REEL LED
Q1503
ON2170
(T. REEL)
MODE SELECT SW
S1501
MECHANISM CONNECTION C.B.A. (VES0413)
P6007
POS. COM
POS (3)
POS (2)
POS (1)
T. REEL LED
T. REEL SENSOR
GND
SENSOR LED
GND
TO SUB VIDEO
CLOG
TO POWER
REG 5V
POWER OFF Ⓛ
UNREG GND
SW 12V
UNREG
REG 9V
P. SAVE Ⓗ
SRSF Ⓛ
POWER ON Ⓛ
SYSTEM 5V
CAM P. ON Ⓛ
TO SUB VIDEO
VMD 1
VMD 2
OUT/AWT/IN
SW6501
ESD100121
POWER
D6501
BR3668S
D6508
MA4033
SW6502
ESD100121
EJECT
SW6503
EVQQSB04B
STOP
SW6504
EVQQSB04B
REW
SW6505
EVQQSB04B
FF
SW6506
EVQQSB04B
PAUSE
SW6507
EVQQSB04B
PLAY
SW6508
EVQQSB04B
REC
SW6510
EVQQSB04B
ADUB
SW6518
VST0098
CAM / VTR
SW6511
EVQQSB04B
TRACK UP
SW6512
EVQQSB04B
TRACK DOWN
SW6514
EVQQSB04B
COUNTER MEM
SW6515
EVQQSB04B
COUNTER CLR
SW6516
EVQQSB04B
SHIFT
SW6517
EVQQSB04B
SET
D6502 (1/2)
MA141WA
D6516
BR3668S
D6503 (1/2)
MA141WA
D6517
BR3668S
D6504
MA141K
D6518
BR3668S
D6505 (1/2)
MA141WA
D6519
BR3668S
D6502 (1/2)
MA141WA
D6520
BR3668S
D6503 (1/2)
MA141WA
D6522
BR3668S
D6505 (1/2)
MA141WA
D6510 (1/2)
MA141WA
D6511
MA141K
D6512
MA141K
D6514
MA141K
D6510 (1/2)
MA141WA
VTR OPERATION C.B.A.
(VEP06613A)
P6501
POWER LED
A-DUB LED
KEY 5
A.D. SW COM
SCAN 2
SHIFT
FF LED
SET
KEY 4
SCAN 3
SCAN 1
POWER EJECT SW
REW LED
KEY 1
GND
C. DOWN
KEY 2
REC LED
KEY 3
PLAY LED
PAUSE LED
P6002 (TO CAMERA OPERATION)
P6701-1 MACRO RESET
P6701-2 SCAN 1
P6701-3 SCAN 5
P6701-4 KEY 7
P6701-5 SCAN 6
P6701-6 STAND-BY LED
P6701-7 SCAN 2
P6701-8 KEY 8
P6701-9 GND
P6701-10 FADER KEY
P6003
POWER LED
A-DUB LED
KEY 5
AD SW COM
SCAN 2
SHIFT
FF LED
SET
KEY 4
SCAN 3
SCAN 1
POWER EJECT SW
REW LED
KEY 1
GND
C. DOWN
KEY 2
REC LED
KEY 3
PLAY LED
PAUSE LED
SAFETY TAB SW
P6016
S-TAB SW
GND
D6022
MA141K
D6025
MA141K
D6021
MA141K
QR6002
UN5212
(POWER/EJECT SW ON: ON)
Q6001
2SB1218
(POWER/EJECT SW Ⓛ: ON)
R6006 10K
R6003 3300
R6004 5600
R6007 10K
C6003 25V10
R6073 390
C6027 25V10
QR6004
UN5213
(POWER OFF Ⓗ: ON)
QR6008
XN1217
(C. LOG Ⓗ: ON)
(REMOTE SW Ⓗ: ON)
R6079 10K
D6003
MA141WA
D6001
MA141WA
L6001 100µ
C6001 0.1
C6002 16V47
R6111 4700
R6112 4700
R6005 10K
QR6001
XN4312
(CAMERA POWER ON Ⓗ: ON)
Q6006
2SD1819
(OUT/AWT/IN Ⓛ: ON)
R6106 10K
R6108 68K
R6107 4700
QR6007
XN1501
(OUT/AWT/IN Ⓛ: ON)
R6110 10K
R6109 27K
QR6003
XN1217
(SWITCHING)
C6024 5600P
R6008 10K
R6077 10K
QR6022
UN5113
(SENSOR DRIVE)
R6094 100
R6097 100
C6030 25V220
IC6007 MN12821-Q
OUTPUT CIRCUIT
V1
V2
POWER VOLTAGE DET
C6004 10V33
C6005 0.1
A-LINE
IC6008
µPD4094BG
STRB
DATA
CLOCK
FF
REW
PLAY
PAUSE
VCC
OE
REC
STAND-BY
MACRO
A-DUB
QR6031
XN1113
(LED DRIVE)
QR6034
UN5113
(LED DRIVE)
R6098 390
R6027 10K
R6103 390
R6025 390
QR6005
UN5217
(LINE Ⓛ: ON)
D6002
MA141K
QR6011
XN1217
(SWITCHING)
D6005
MA141WA
IC6001 µPD4094BG
S-TAB
DATA
CLOCK
VMD1
VMD2
CAMERA POWER ON
POWER OFF Ⓗ
VSS
VCC
OE
POWER LED
FM MUTE
REMOTE LED
TALLY LED
C6029 330P
R6010 470
R6011 10K
R6009 10K
(A.D. SW Ⓗ: ON)
QR6030
UN5213
QR6009
UN5217 (INV.)
R6015 10K
R6089 3300
QR6010
UN521E
(EXT. 12V Ⓗ: ON)
R6105 390
D6011
MA141K
D6009
MA141WA
R6078 10K
QR6014
XN1217
(S. TAB Ⓛ: OFF)
(C. DOWN Ⓛ: OFF)
D6018
MA141WK
C6028 50V1
(EJECT SW ON: ON)
QR6027
UN5213
D6023
MA141K
R6099 390
R6101 390
R6102 390
QR6033
XN1113
(LED DRIVE)
R6100 390
QR6032
XN1113
(LED DRIVE)
D6010
MA141K
B-LINE
(A1)
(A2)
(A3)
(A4)
(A5)
(B1)
(B2)
(B3)
(B4)
(B5)
(B6)
(B7)
(B8)
(B9)
(C1)
(D1)
(D2)


IC 6005 M54543AL
LOADING MOTOR DRIVE
IC 6006 µPD4094BG
STRB
DATA
CLOCK
AD ON Ⓗ
ENV. GAIN UP
AD SW
SRSF
CE
FE Ⓗ
CYLINDER ON
PB Ⓗ
LINE Ⓗ
P6004 (TO LOADING MOTOR)
MOTOR (+)
MOTOR (−)
Q6004 2SD1820 (POWER STABLLIZER)
P6014 (TO VTR JACK)
S. CLK
GND
S. OUT
5V
LINE Ⓛ
EXT 12V
S. IN
QR6035 UN4213
TO SERVO
CLY ON Ⓗ
PB CTL
H.A. SW
H. SW
UTR 1
UTR 2
SP Ⓗ
R/P/M
R/F/S
CONTROL DUTY Ⓗ
S.D. REC Ⓗ
V0
V1
V. EE Ⓗ
SW2 OFF Ⓛ
TR. UP
TR. DOWN
TO SUB VIDEO
HD
VD
NON REC DATA
REC LED
V1
IC 6004 µPD6145G617A
CS
CLOCK
STRB
DATA
VCC
OSC
VSS
HOLD
HD
VD
NRD
RD
QR6020 XN1213 (S.D. REC Ⓗ : ON)
(PB CTL Ⓗ : ON)
TO AUDIO
F.E Ⓛ
FADER KEY
A. EE Ⓗ
S-TAB Ⓛ
A.MUTE Ⓗ
S. TAB 9V
LINE Ⓗ
V. EE Ⓗ
FM D. REC Ⓛ
A.D. REC Ⓛ
FM MUTE Ⓗ
QR6019 XN1112 (LED DRIVE)
TO SUB VIDEO
S-TAB 9V
LINE Ⓗ
V. EE Ⓗ
V.D. REC Ⓛ
EDIT Ⓗ
REC DATA
R. ERASE Ⓛ
P.B Ⓗ
ENV. GAIN UP
IC 6003 S3500A2
T1
T2
F2
F1
DATA
RESET
CLOCK
SET
SHIFT
Q6003 2SD1819 (DATA MIX)
S6001 ESD142127
EDIT
P6013 (TO A.D. BATTERY)
AD BATTERY
GND
P6011 (NOT CONNECT)
COMMON
C. REC
C. PLAY
C. POWER ON
C. VTR
UNDER CUT
GND
C. EJECT
C. DOWN
IC 6002 M50963
NC
VD
LOAD
UNLOAD
P.B. CONTROL
H SW
SERIAL DATA IN
SERIAL DATA OUT
SERIAL CLOCK
SENSOR LED
POWER SAVE
POWER OFF Ⓗ
SUPPLY PHOTO
TAKEUP PHOTO
T-REEL
POWER/EJECT SW
BATTERY
DEW
EXT STRB
CG STRB
CG CS
UTR
EXT PORT
SP/LP/SLP
VREF
A VSS
VSS
R/P/M
R/F/S
CONTROL DUTY
SD REC
V0
V1
TR. DOWN
TR. UP
CN VSS
RESET
X'TAL IN
X'TAL OUT
KEY 1
KEY 2
KEY 3
KEY 4
KEY 5
KEY 6
KEY 7
KEY 8
SW2 OFF Ⓛ
A. MUTE Ⓗ
A. EE Ⓛ
V. EE Ⓛ
RE Ⓛ
H-D REC Ⓛ
A-D REC Ⓛ
V-D REC Ⓛ
AD CLOCK
5P-SERIAL CLOCK
SCAN6/EXT. CLOCK
SCAN5/EXT3 DATA
SCAN4/EXT2 DATA
SCAN3/EXT1 DATA
SCAN2/CG CLOCK
SCAN1/CG DATA
IC 6007 MN12821-Q
OUTPUT CIRCUIT
POWER VOLTAGE DET
IC6001 µPD4094BG
S-TAB
DATA
CLOCK
VMD1
VMD2
CAMERA POWER ON
POWER OFF Ⓗ
VSS
VCC
OE
POWER LED
FM MUTE
REMOTE LED
TALLY LED
QR6022 UN5113 (SENSOR DRIVE)
Q6005 2SD1820 (SENSOR 5V REG.)
CHARACTOR POSITION ADJ.
QR6010 UN521E (EXT. 12V Ⓗ : ON)
QR6027 UN5213 (EJECT SW ON: ON)
Q6002 2SB970X (S. TAB Ⓛ : ON)
QR6017 UN5111 (V. EE Ⓛ : ON)
QR6029 UN5213 (FE Ⓗ : ON)
UNDER CUT ADJ
D-LINE
E-LINE
F-LINE
B-LINE
C-LINE
11
12
13
14
15
16
17
18
19
20
21
22
23

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-23. AUDIO SCHEMATIC DIAGRAM


MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH IN PLAYBACK MODE
A - LINE
TO SYSTEM CONTROL
A.D. REC Ⓛ
S. TAB Ⓛ
V. EE Ⓗ
A. EE Ⓗ
FM. D REC Ⓛ
LIVE Ⓗ
S. TAB 9V
FADER KEY
FM MUTE Ⓗ
A. MUTE Ⓗ
F.E Ⓛ
GND
A1
A2
A3
A4
A5
A6
R4055
1000
R4053
5600
R4052
1000
R4051
330
C4018
10V220
Q4005
2SB970X
(A.D REC Ⓛ :ON)
QR4004
UN5116
(A.D REC Ⓛ: ON)
4.7K
QR4002
UN5212
22K
22K
(A HEAD SELECT)
C4022
50V1
TO SUB VIDEO
A.D. REC Ⓗ
FULL ERASE 9V
QR4003
UN5116
(F.E Ⓛ:ON)
Q4001
2SD1820.R
(OSC)
L4001
220μ
C4003
5600P
R4002
22K
R4003
10K
C4004
4700P
R4038
16V47
TO SERVO
CTL
CTL GND
P4002 (TO A/C, AE HEAD)
1 CONTROL HEAD
2 CONTROL GND
3 AE HEAD
4 AE HEAD GND
5 A. HEAD (R)
6 A. HEAD (P)
7 GND
T4001
EIQ7QE007Q
C4001
2200P
(100V)
C4002
ECRHC120
N11
AUDIO BIAS
TP4002
TP4003
R4001
10
R4049
10K
R4012
4700
IC4001
μPC1513C
VCC
GND
PB ON
REC ON
NC
C4016
16V47
R4013
15K
C4019
50V1
C4017
16V22
C4025
16V22
R4016
180
L4002
8.2mH
C4021
0.033
C4024
16V22
R4018
1M
R4014
1200
TP4001
R4027
560
L4003
15mH
C4026
16V22
C4027
6800P
IC4002
μPC2300C
½ VCC
OET
NUT
ALC
MUTE
R4004
27K
C4005
1200P
C4007
35V1
C4000
150P
C4008
0.033
R4007
3300
R4006
180K
C4009
6V33
R4005
150
R4009
1200
C4011
8200P
C4012
16V22
VR4001
2KB
R4044
100K
C4014
1200P
R4010
4700
C4015
6V47
C4013
50V1
R4054
330
R4056
1000
TO POWER
REG 5V
REG 9V
UNREG
GND
P4001 (TO VTR JACK)
1 RF Ⓛ P4903-1
2 GND P4903-2
3 A LINE IN (L) P4903-3
4 A LINE IN (R) P4903-4
TO AUDIO INTERFACE
FADER KEY
A LINE IN (L)
A LINE IN (R)
GND
+9V
LINE Ⓗ
UNREG
AUDIO 5V
S. TAB Ⓛ
FM.D.REC Ⓛ
AUDIO IN (N)
LINE OUT (L)
LINE OUT (R)
V EE Ⓗ
A. EE Ⓗ
TO SERVO
CYLINDER FG
1/3 PG
P4003 (TO Hi-Fi AUDIO)
1 V-EE Ⓗ P4502-1
2 1/3 PG P4502-2
3 CYLINDER FG P4502-3
4 A EE Ⓗ P4502-4
5 GND P4502-5
6 AUDIO 5V P4502-6
7 UNREG P4502-7
8 AUDIO OUT (N) P4502-8
9 FM MUTE Ⓗ P4502-9
10 A.D REC Ⓛ P4502-10
11 RF Ⓛ P4502-11
12 PLAY Ⓗ P4502-12
13 LINE OUT (R) P4502-13
14 LINE OUT (L) P4502-14
P4004
1 AUDIO OUT (N)
2 GND
FULL ERASE HEAD
T1501
EIQ7QT007Q
C1504
0.033
Q1504
2SC2603 (OSC)
L1501
220μ
R1503
33K
C1501
16V10
C1503
0.01
C1502
4700P
TO SUB VIDEO (P3805)
FE 9V
GND
FULL ERASE HEAD C.B.A. (VEP00H73B)
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS (   ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

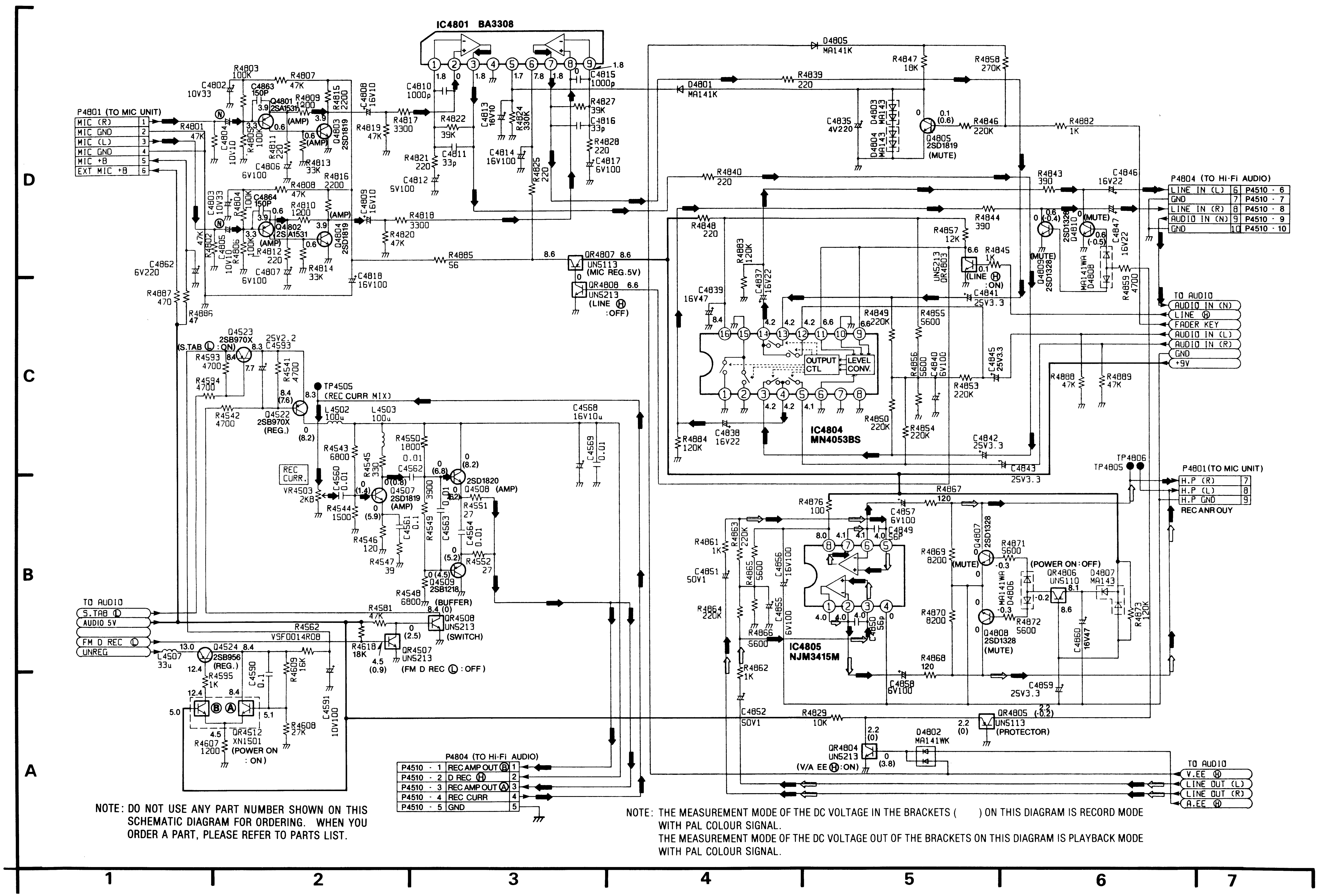
- LINE IN SIGNAL LEVEL... −10dB 1kHz

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

Back Page:
SYSTEM CONTROL Section

3-24. AUDIO INTERFACE SCHEMATIC DIAGRAM

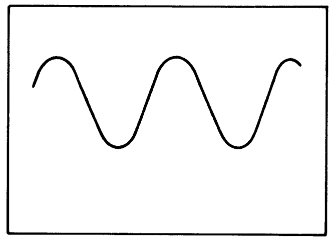
MAIN SIGNAL PATH IN REC MODE   MAIN SIGNAL PATH IN PLAYBACK MODE


IC4801 BA3308
P4801 (TO MIC UNIT)
MIC (R) 1
MIC GND 2
MIC (L) 3
MIC GND 4
MIC +B 5
EXT MIC +B 6
Q4801 2SA1531 (AMP)
Q4803 2SD1819 (AMP)
Q4802 2SA1531 (AMP)
Q4804 2SD1819 (AMP)
QR4807 UN5113 (MIC REG.5V)
QR4808 UN5213 (LINE Ⓗ :OFF)
D4805 MA141K
D4801 MA141K
D4803 MA143
D4804 MA143
Q4805 2SD1819 (MUTE)
Q4810 2SD1328 (MUTE)
Q4809 2SD1328 (MUTE)
D4808 MA141WA
QR4809 UN5213 (LINE Ⓗ :ON)
IC4804 MN4053BS
OUTPUT CTL
LEVEL CONV.
P4804 (TO Hi-Fi AUDIO)
LINE IN (L) 6 P4510 - 6
GND 7 P4510 - 7
LINE IN (R) 8 P4510 - 8
AUDIO IN (N) 9 P4510 - 9
GND 10 P4510 - 10
TO AUDIO
AUDIO IN (N)
LINE Ⓗ
FADER KEY
AUDIO IN (L)
AUDIO IN (R)
GND
+9V
Q4523 2SB970X (S.TAB Ⓛ :ON)
Q4522 2SB970X (REG.)
TP4505 (REC CURR MIX)
REC CURR.
VR4503 2K B
Q4507 2SD1819 (AMP)
Q4508 2SD1820 (AMP)
Q4509 2SB1218 (BUFFER)
QR4508 UN5213 (SWITCH)
QR4507 UN5213 (FM D REC Ⓛ : OFF)
TO AUDIO
S.TAB Ⓛ
AUDIO 5V
FM D REC Ⓛ
UNREG
Q4524 2SB956 (REG.)
QR4512 XN1501 (POWER ON : ON)
P4804 (TO Hi-Fi AUDIO)
P4510 - 1 REC AMP OUT Ⓑ 1
P4510 - 2 D REC Ⓗ 2
P4510 - 3 REC AMP OUT Ⓐ 3
P4510 - 4 REC CURR 4
P4510 - 5 GND 5
TP4806
TP4805
P4801 (TO MIC UNIT)
H.P (R) 7
H.P (L) 8
H.P GND 9
REC ANR OUY
IC4805 NJM3415M
Q4807 2SD1328 (MUTE)
Q4808 2SD1328 (MUTE)
D4806 MA141WA
QR4806 UN5110 (POWER ON : OFF)
D4807 MA143
QR4805 UN5113 (PROTECTOR)
D4802 MA141WK
QR4804 UN5213 (V/A EE Ⓗ :ON)
TO AUDIO
V.EE Ⓗ
LINE OUT (L)
LINE OUT (R)
A.EE Ⓗ
D
C
B
A
1
2
3
4
5
6
7

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

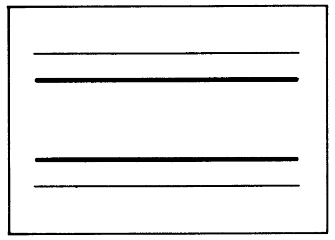
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS (   ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

AUDIO CIRCUIT TP (Test Point) WAVEFORM (REF. NO. 4000 Servies)

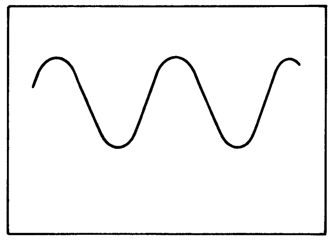


TP4001 PLAY/REC
0.5V/0.5msec. div. 1.0Vp-p

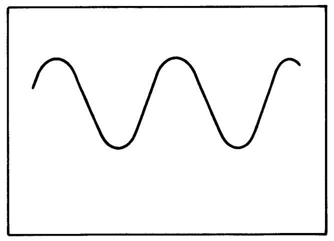
AUDIO INTERFACE CIRCUIT TP (Test Point) WAVEFORM (REF. NO. 4800 Servies)



TP4505 REC
50mV/5μsec. div. 0.28Vp-p



TP4805 PLAY/REC
0.5V/0.5msec. div. 1.8Vp-p

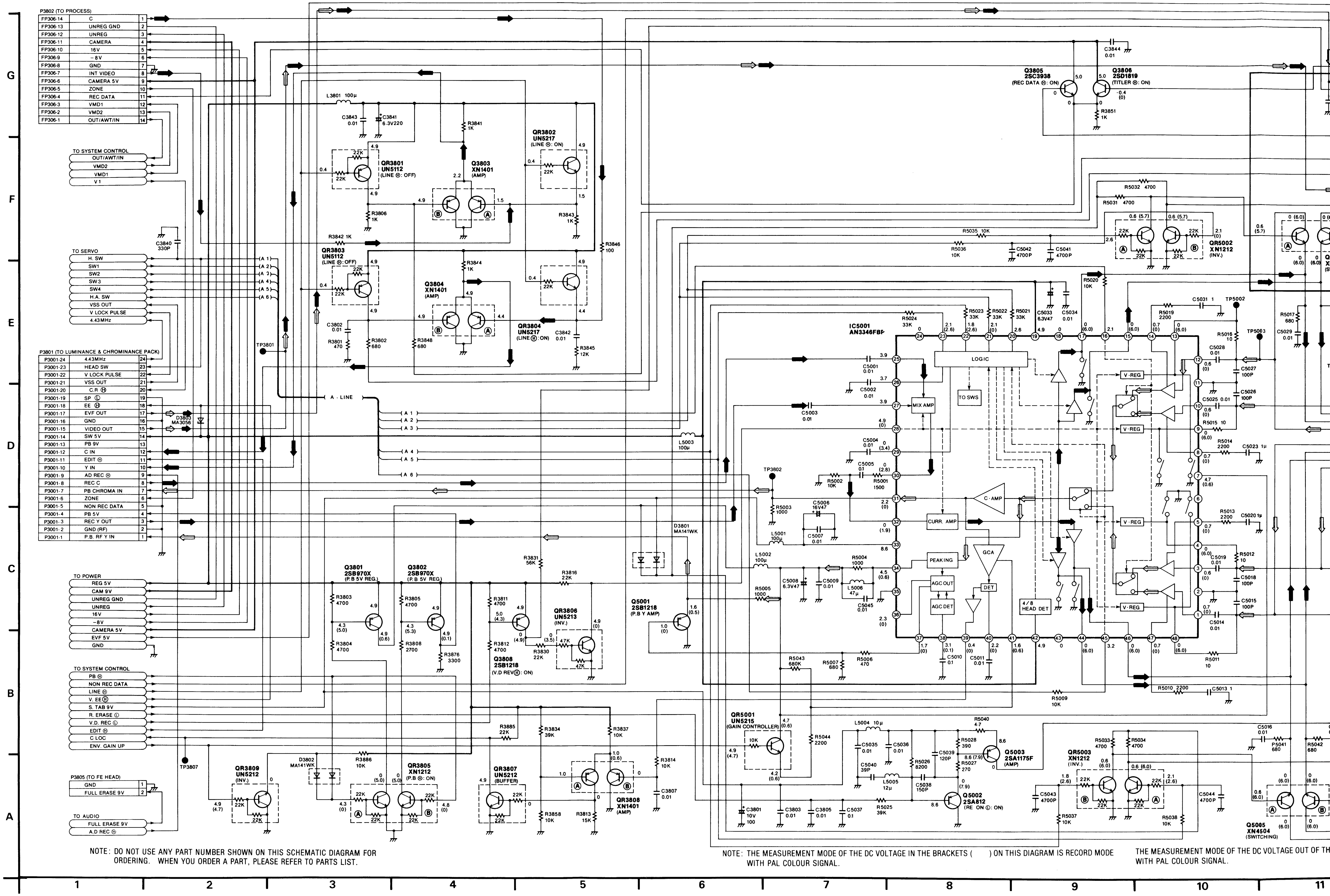


TP4806
0.5V/0.5msec. div. 1.5Vp-p

3-25. SUB VIDEO & HEAD AMP SCHEMATIC DIAGRAM

MAIN SIGNAL PATH IN REC MODE

MAIN SIGNAL PATH IN PLAYBACK MODE

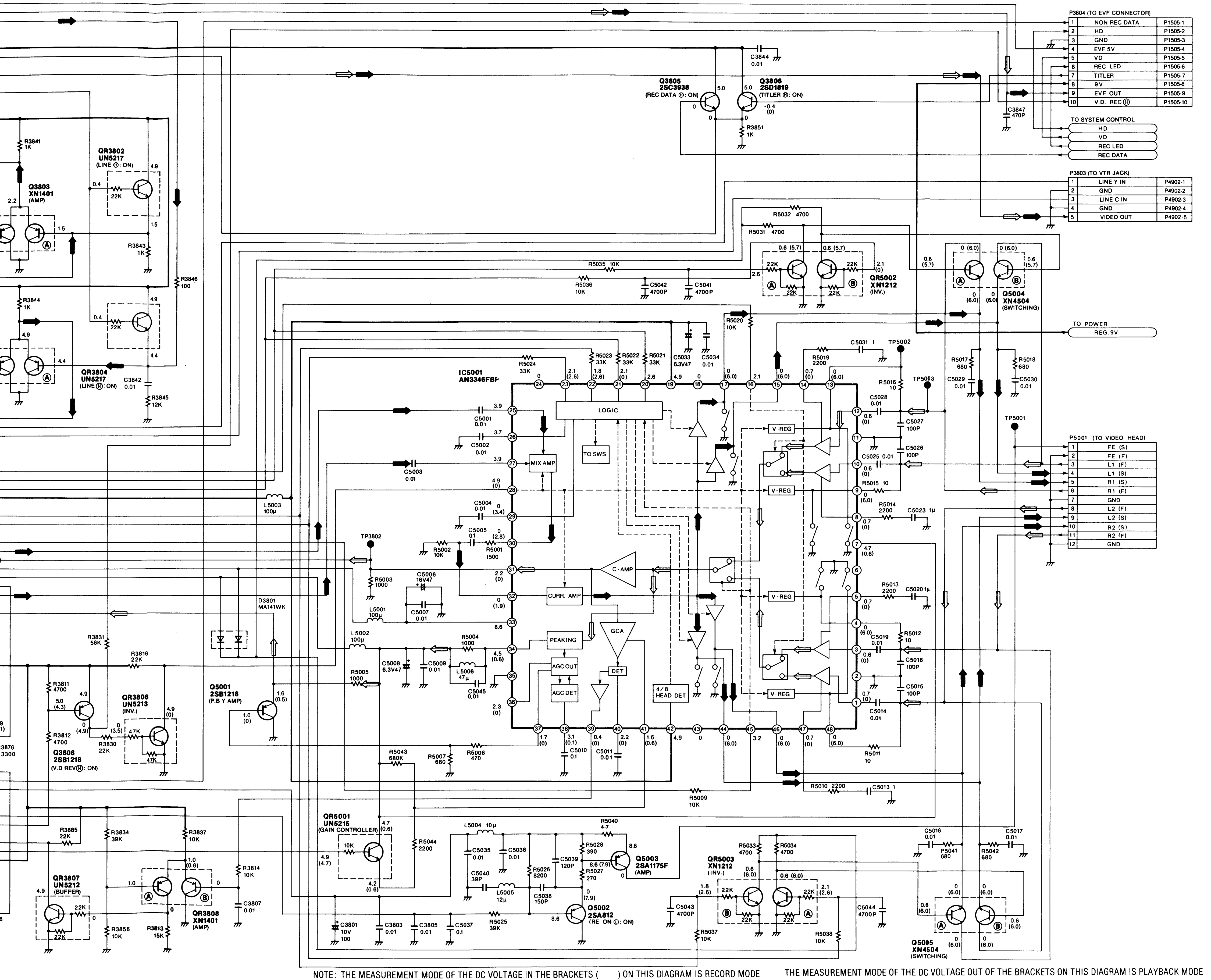

P3802 (TO PROCESS)
FP306-14 C 1
FP306-13 UNREG GND 2
FP306-12 UNREG 3
FP306-11 CAMERA 4
FP306-10 16V 5
FP306-9 −8V 6
FP306-8 GND 7
FP306-7 INT VIDEO 8
FP306-6 CAMERA 5V 9
FP306-5 ZONE 10
FP306-4 REC DATA 11
FP306-3 VMD1 12
FP306-2 VMD2 13
FP306-1 OUT/AWT/IN 14
TO SYSTEM CONTROL
OUT/AWT/IN
VMD2
VMD1
V1
TO SERVO
H. SW
SW1
SW2
SW3
SW4
H.A. SW
VSS OUT
V LOCK PULSE
4.43MHz
P3801 (TO LUMINANCE & CHROMINANCE PACK)
P3001-24 4.43MHz 24
P3001-23 HEAD SW 23
P3001-22 V LOCK PULSE 22
P3001-21 VSS OUT 21
P3001-20 C.R Ⓗ 20
P3001-19 SP Ⓛ 19
P3001-18 EE Ⓗ 18
P3001-17 EVF OUT 17
P3001-16 GND 16
P3001-15 VIDEO OUT 15
P3001-14 SW 5V 14
P3001-13 PB 9V 13
P3001-12 C IN 12
P3001-11 EDIT Ⓗ 11
P3001-10 Y IN 10
P3001-9 AD REC Ⓗ 9
P3001-8 REC C 8
P3001-7 PB CHROMA IN 7
P3001-6 ZONE 6
P3001-5 NON REC DATA 5
P3001-4 PB 5V 4
P3001-3 REC Y OUT 3
P3001-2 GND (RF) 2
P3001-1 P.B. RF Y IN 1
TO POWER
REG 5V
CAM 9V
UNREG GND
UNREG
16V
−8V
CAMERA 5V
EVF 5V
GND
TO SYSTEM CONTROL
PB Ⓗ
NON REC DATA
LINE Ⓗ
V. EE Ⓗ
S. TAB 9V
R. ERASE Ⓛ
V.D. REC Ⓛ
EDIT Ⓗ
C LOC
ENV. GAIN UP
P3805 (TO FE HEAD)
GND 1
FULL ERASE 9V 2
TO AUDIO
FULL ERASE 9V
A.D REC Ⓗ
TP3807
TP3801
TP3802
TP5002
TP5003
A - LINE
L3801 100μ
C3843 0.01
C3841 6.3V220
R3841 1K
QR3801 UN5112 (LINE Ⓗ: OFF)
Q3803 XN1401 (AMP)
QR3802 UN5217 (LINE Ⓗ: ON)
R3806 1K
R3843 1K
R3842 1K
R3846 100
QR3803 UN5112 (LINE Ⓗ: OFF)
R3844 1K
Q3804 XN1401 (AMP)
QR3804 UN5217 (LINE Ⓗ: ON)
C3842 0.01
R3845 12K
C3802 0.01
R3801 470
R3802 680
R3848 680
C3840 330P
D3803 MA3056
Q3805 2SC3938 (REC DATA Ⓗ: ON)
Q3806 2SD1819 (TITLER Ⓗ: ON)
C3844 0.01
R3851 1K
IC5001 AN3346FBF
LOGIC
TO SWS
MIX AMP
C-AMP
CURR. AMP
PEAKING
GCA
AGC OUT
AGC DET
DET
4/8 HEAD DET
V-REG
R5032 4700
R5031 4700
R5035 10K
R5036 10K
C5042 4700P
C5041 4700P
QR5002 XN1212 (INV.)
R5020 10K
R5023 33K
R5022 33K
R5021 33K
R5024 33K
C5033 6.3V47
C5034 0.01
R5019 2200
C5031 1
R5017 680
R5016 10
C5029 0.01
C5028 0.01
C5027 100P
C5026 100P
C5025 0.01
R5015 10
R5014 2200
C5023 1μ
R5013 2200
C5020 1μ
C5019 0.01
R5012 10
C5018 100P
C5015 100P
C5014 0.01
R5011 10
R5010 2200
C5013 1
R5009 10K
C5001 0.01
C5002 0.01
C5003 0.01
C5004 0.01
C5005 0.1
R5001 1500
R5002 10K
C5006 16V47
C5007 0.01
R5003 1000
L5001 100μ
L5002 100μ
L5003 100μ
R5004 2200
R5005 1000
C5008 6.3V47
C5009 0.01
L5006 47μ
C5045 0.01
C5010 0.1
C5011 0.01
R5043 680K
R5007 680
R5006 470
D3801 MA141WK
Q5001 2SB1218 (P.B Y AMP)
Q3801 2SB970X (P.B 5V REG.)
Q3802 2SB970X (P.B 5V REG.)
R3803 4700
R3804 4700
R3805 4700
R3808 2700
R3876 3300
R3831 56K
R3816 22K
R3811 4700
R3812 4700
R3830 22K
Q3808 2SB1218 (V.D REV Ⓗ: ON)
QR3806 UN5213 (INV.)
QR3809 UN5212 (INV.)
D3802 MA141WK
R3886 10K
QR3805 XN1212 (P.B Ⓗ: ON)
R3885 22K
QR3807 UN5212 (BUFFER)
R3834 39K
R3837 10K
R3858 10K
R3813 15K
QR3808 XN1401 (AMP)
R3814 10K
C3807 0.01
QR5001 UN5215 (GAIN CONTROLLER)
R5044 2200
L5004 10μ
C5035 0.01
C5036 0.01
C5040 39P
L5005 12μ
C5038 150P
C5039 120P
R5026 8200
R5028 390
R5027 270
R5025 39K
R5040 4.7
Q5003 2SA1175F (AMP)
Q5002 2SA812 (RE ON Ⓛ: ON)
C3801 10V 100
C3803 0.01
C3805 0.01
C5037 0.1
R5033 4700
R5034 4700
QR5003 XN1212 (INV.)
C5043 4700P
R5037 10K
R5038 10K
C5044 4700P
C5016 0.01
P5041 680
R5042 680
Q5005 XN4504 (SWITCHING)
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.

THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF TH WITH PAL COLOUR SIGNAL.

MAIN SIGNAL PATH IN REC MODE MAIN SIGNAL PATH IN PLAYBACK MODE

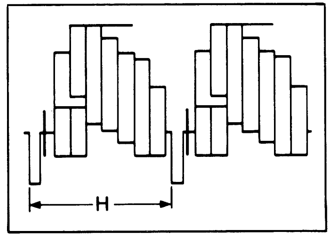

P3804 (TO EVF CONNECTOR)
1 NON REC DATA P1505-1
2 HD P1505-2
3 GND P1505-3
4 EVF 5V P1505-4
5 VD P1505-5
6 REC LED P1505-6
7 TITLER P1505-7
8 9V P1505-8
9 EVF OUT P1505-9
10 V.D. REC(H) P1505-10
TO SYSTEM CONTROL
HD
VD
REC LED
REC DATA
P3803 (TO VTR JACK)
1 LINE Y IN P4902-1
2 GND P4902-2
3 LINE C IN P4902-3
4 GND P4902-4
5 VIDEO OUT P4902-5
TO POWER
REG.9V
P5001 (TO VIDEO HEAD)
1 FE (S)
2 FE (F)
3 L1 (F)
4 L1 (S)
5 R1 (S)
6 R1 (F)
7 GND
8 L2 (F)
9 L2 (S)
10 R2 (S)
11 R2 (F)
12 GND
Q3805 2SC3938 (REC DATA (H): ON)
Q3806 2SD1819 (TITLER (H): ON)
QR3802 UN5217 (LINE (H): ON)
Q3803 XN1401 (AMP)
QR3804 UN5217 (LINE (H): ON)
QR3806 UN5213 (INV.)
Q3808 2SB1218 (V.D REV(H): ON)
QR3807 UN5212 (BUFFER)
QR3808 XN1401 (AMP)
QR5002 XN1212 (INV.)
Q5004 XN4504 (SWITCHING)
IC5001 AN3346FBF
LOGIC
TO SWS
MIX AMP
V-REG
C-AMP
CURR. AMP
PEAKING
GCA
AGC OUT
AGC DET
DET
4/8 HEAD DET
D3801 MA141WK
Q5001 2SB1218 (P.B Y AMP)
QR5001 UN5215 (GAIN CONTROLLER)
Q5003 2SA1175F (AMP)
Q5002 2SA812 (RE ON (L): ON)
QR5003 XN1212 (INV.)
Q5005 XN4504 (SWITCHING)
TP3802
TP5001
TP5002
TP5003

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.

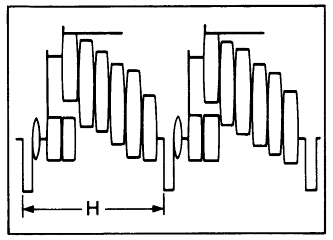
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

4 5 6 7 8 9 10 11 12

SUB VIDEO CIRCUIT TP (Test Point) WAVEFORM (REF. NO. 3800 Series)



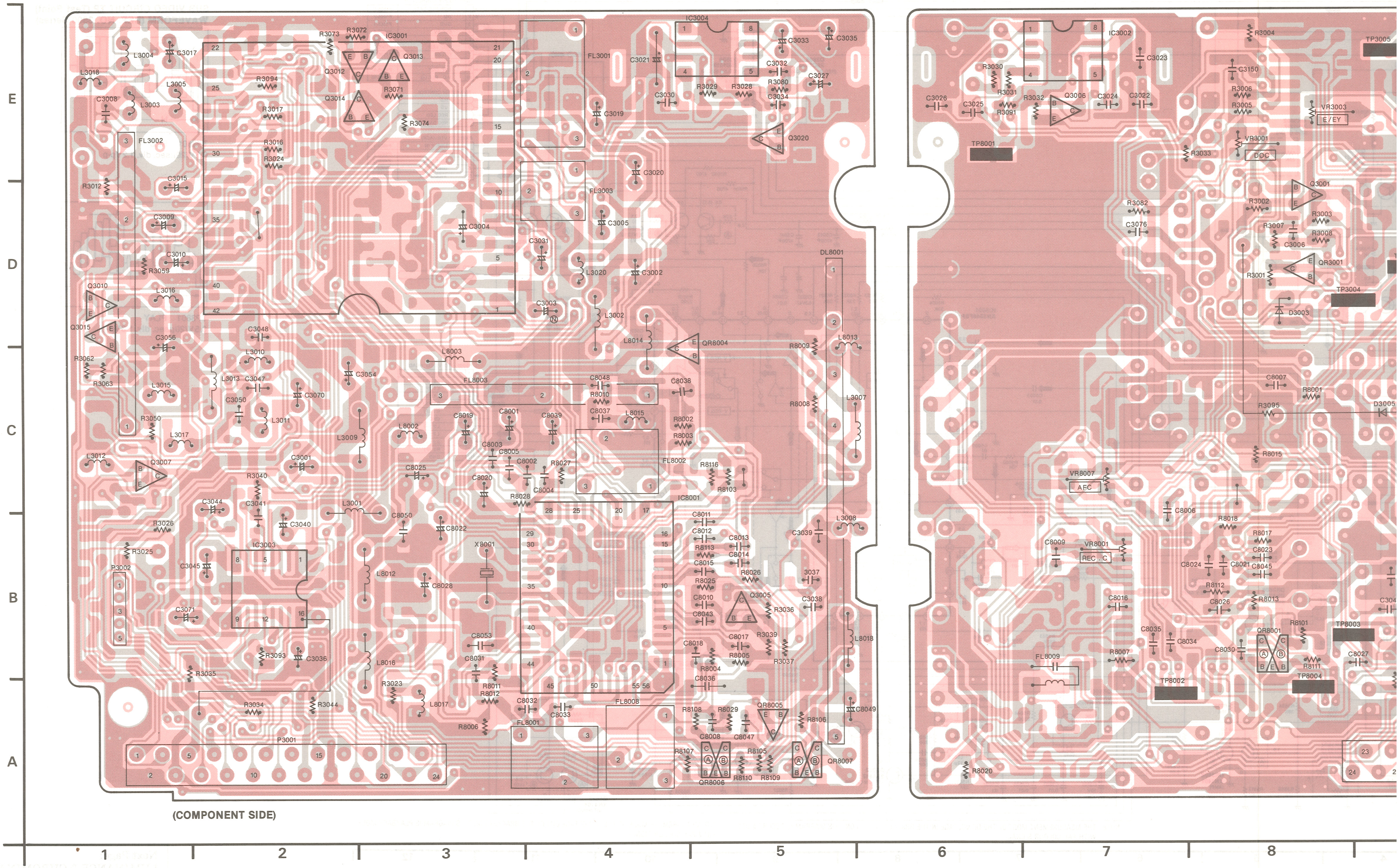
TP3801 REC
0.5V/20µsec. div. 1.2Vp-p



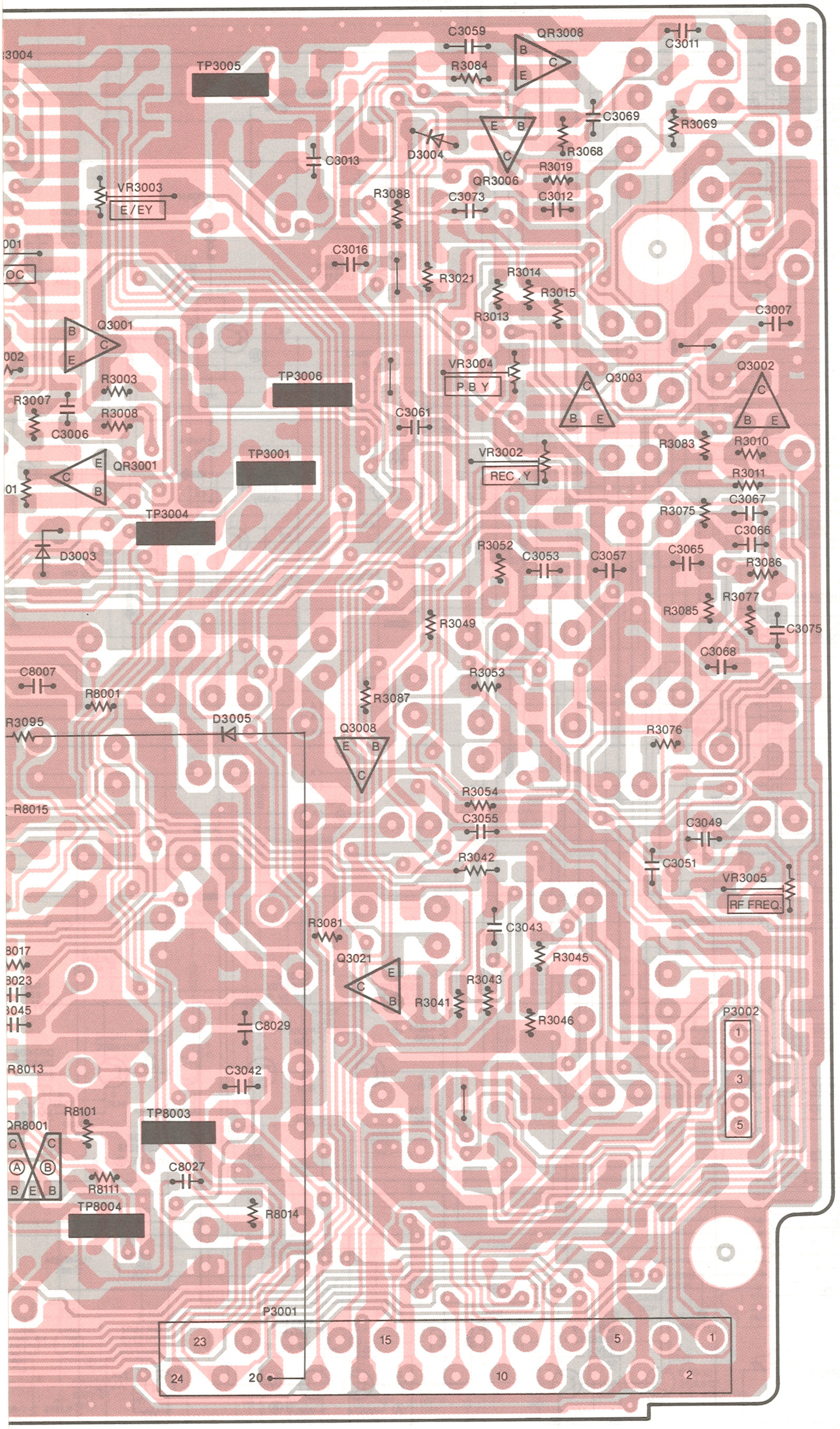
TP3801 PLAY
0.5V/20µsec. div. 1.3Vp-p

Next Page:
LUMINANCE & CHROMINANCE
PACK Section

3-26. LUMINANCE & CHROMINANCE PACK C.B.A. (VEP03676C)


E
D
C
B
A
1
2
3
4
5
6
7
8
IC3001
IC3002
IC3003
IC3004
IC8001
Q3001
Q3006
Q3007
Q3010
Q3012
Q3013
Q3014
Q3015
Q3020
QR3001
QR8001
QR8004
QR8005
QR8006
QR8007
Q3005
FL3001
FL3002
FL3003
FL8001
FL8002
FL8003
FL8008
FL8009
DL8001
X8001
D3003
D3005
P3001
P3002
TP3004
TP3005
TP8001
TP8002
TP8003
TP8004
VR3001
DOC
VR3003
E/EY
VR8001
REC . C
VR8007
AFC
L3001
L3002
L3003
L3004
L3005
L3007
L3008
L3009
L3010
L3011
L3012
L3013
L3015
L3016
L3017
L3018
L3020
L8002
L8003
L8012
L8013
L8014
L8015
L8016
L8017
L8018
R3001
R3002
R3003
R3004
R3005
R3006
R3007
R3008
R3012
R3016
R3017
R3023
R3024
R3025
R3026
R3028
R3029
R3030
R3031
R3032
R3033
R3034
R3035
R3036
R3037
R3039
R3040
R3044
R3050
R3059
R3062
R3063
R3071
R3072
R3073
R3074
R3080
R3082
R3091
R3093
R3094
R3095
R8001
R8002
R8003
R8004
R8005
R8006
R8007
R8008
R8009
R8010
R8011
R8012
R8013
R8015
R8017
R8018
R8020
R8026
R8027
R8028
R8029
R8101
R8103
R8105
R8106
R8107
R8108
R8109
R8110
R8111
R8112
R8113
R8116
C3001
C3002
C3003
C3004
C3005
C3006
C3008
C3009
C3010
C3015
C3017
C3019
C3020
C3021
C3022
C3023
C3024
C3025
C3026
C3027
C3030
C3031
C3032
C3033
C3034
C3035
C3036
C3038
C3039
C3040
C3041
C3044
C3045
C3047
C3048
C3050
C3054
C3056
C3070
C3071
C3076
C3150
3037
C8001
C8002
C8003
C8004
C8005
C8006
C8007
C8008
C8009
C8010
C8011
C8012
C8013
C8014
C8015
C8016
C8017
C8018
C8019
C8020
C8021
C8022
C8023
C8024
C8025
C8026
C8027
C8028
C8030
C8031
C8032
C8033
C8034
C8035
C8036
C8037
C8038
C8039
C8043
C8045
C8047
C8048
C8049
C8050
C8053
B
C
E

(COMPONENT SIDE)


TP3005
C3059
QR3008
R3084
C3011
C3069
R3069
R3068
D3004
C3013
QR3006
R3019
VR3003
E / EY
R3088
C3073
C3012
C3016
R3021
R3014
R3015
R3013
C3007
Q3001
R3003
TP3006
VR3004
P.B Y
Q3003
Q3002
R3007
R3008
C3006
C3061
QR3001
TP3001
VR3002
REC . Y
R3083
R3010
R3011
TP3004
R3075
C3067
D3003
C3066
R3052
C3053
C3057
C3065
R3086
R3077
R3085
R3049
C3075
C3068
C8007
R3053
R8001
R3087
R3095
D3005
Q3008
R3076
R8015
R3054
C3055
C3049
R3042
C3051
VR3005
RF FREQ.
R3081
C3043
R8017
Q3021
R3045
R3023
R3043
R3041
C8029
R3046
P3002
R8013
C3042
R8101
TP8003
QR8001
C8027
R8111
TP8004
R8014
P3001
23
24
20
15
10
5
2
1
8
9
10

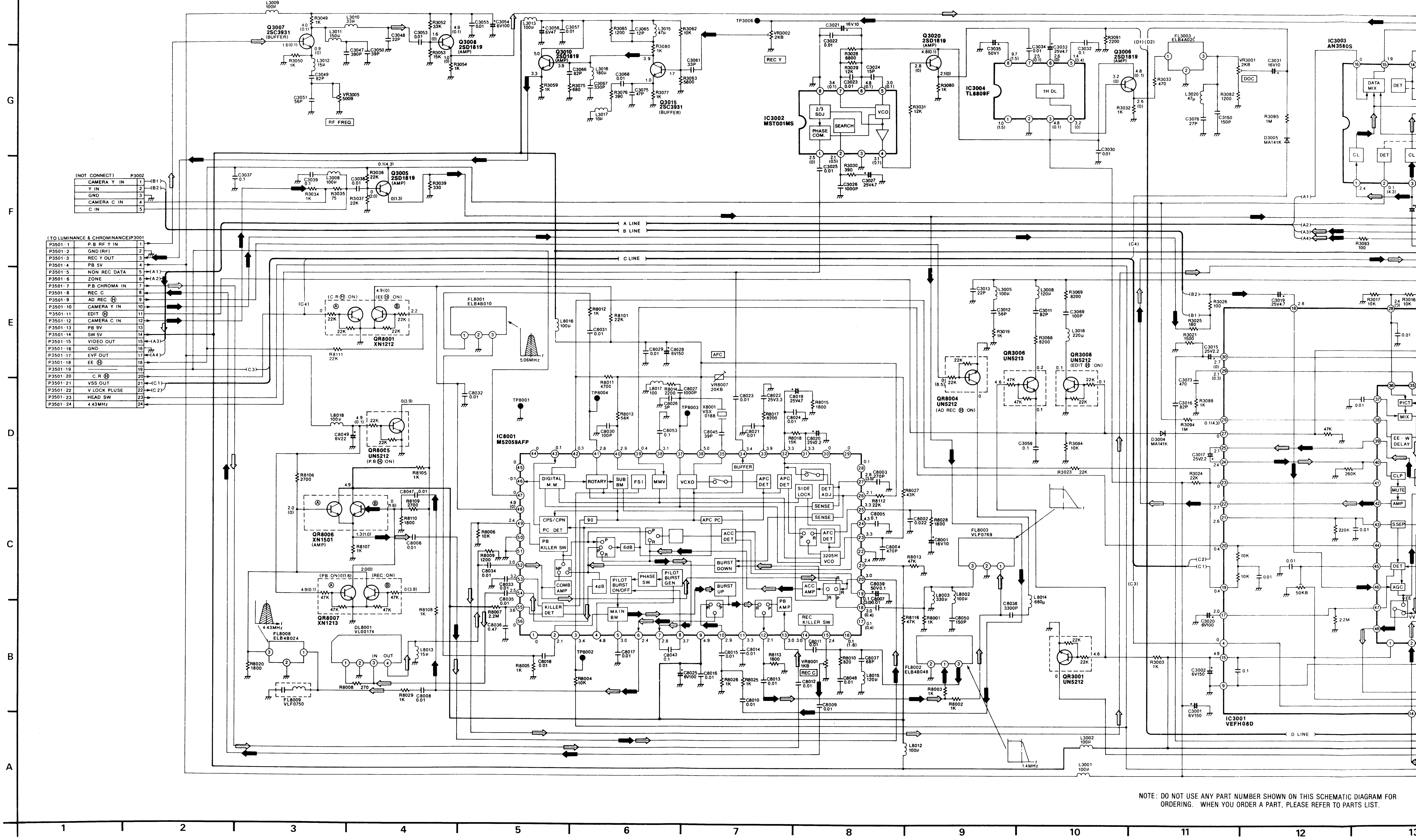
(FOIL SIDE)

LUMINANCE & CHROMINANCE PACK C.B.A.		
Transistor		
Q3001	D-8	Ⓕ
Q3002	D-10	Ⓕ
Q3003	D-10	Ⓕ
Q3005	B-5	Ⓒ
Q3006	E-7	Ⓕ
Q3007	C-1	Ⓒ
Q3008	C-9	Ⓕ
Q3010	D-1	Ⓒ
Q3012	E-2	Ⓒ
Q3013	E-3	Ⓒ
Q3014	E-2	Ⓒ
Q3015	D-1	Ⓒ
Q3020	E-5	Ⓒ
Q3021	B-9	Ⓕ
Transistor & Resistor		
QR3001	D-8	Ⓕ
QR3006	E-10	Ⓕ
QR3008	E-10	Ⓕ
QR8001	B-8	Ⓕ
QR8004	D-5	Ⓒ
QR8005	A-5	Ⓒ
QR8006	A-5	Ⓒ
QR8007	A-5	Ⓒ
Integrated Circuit		
IC3001	E-3	Ⓒ
IC3002	E-7	Ⓕ
IC3003	B-2	Ⓒ
IC3004	E-5	Ⓒ
IC8001	B-4	Ⓒ
Test Point		
TP3001	D-9	Ⓕ
TP3004	D-8	Ⓕ
TP3005	E-9	Ⓕ
TP3006	D-9	Ⓕ
TP8001	E-6	Ⓕ
TP8002	A-7	Ⓕ
TP8003	B-8	Ⓕ
TP8004	A-8	Ⓕ
Adjustment		
VR3001	E-8	Ⓕ
VR3002	D-10	Ⓕ
VR3003	E-8	Ⓕ
VR3004	D-10	Ⓕ
VR3005	C-10	Ⓕ
VR8001	B-7	Ⓕ
VR8007	C-7	Ⓕ
Connector		
P3001	A-2	Ⓒ
P3001	A-9	Ⓕ
P3002	B-1	Ⓒ
P3002	B-10	Ⓕ

ADDRESS INFORMATION
Ⓒ ... COMPONENT SIDE
Ⓕ ... FOIL SIDE

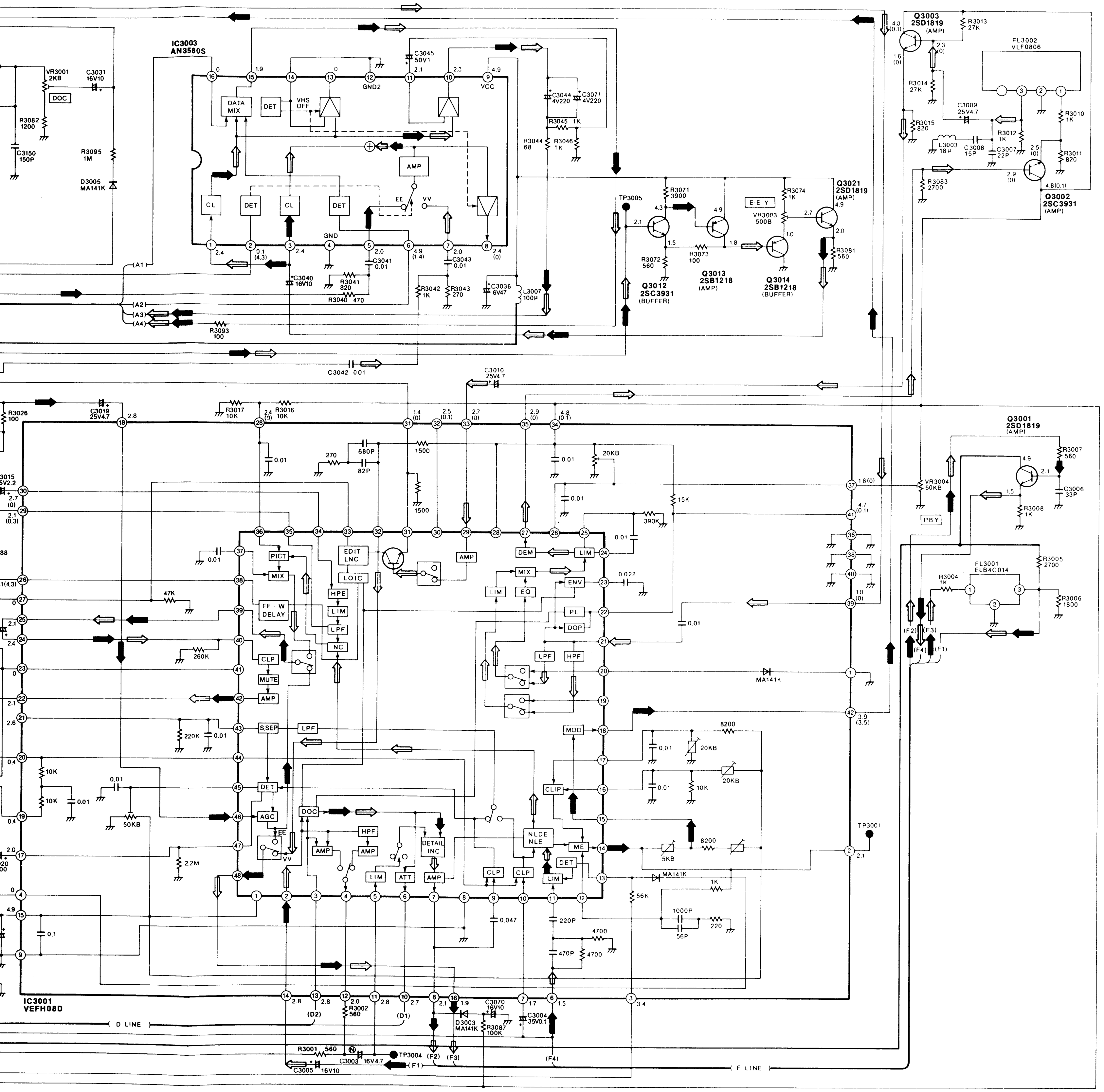
3-27. LUMINANCE & CHROMINANCE PACK SCHEMATIC DIAGRAM

◀ MAIN SIGNAL PATH IN REC MODE　　⇦ MAIN SIGNAL PATH IN PLAYBACK MODE



H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12
(NOT CONNECT) P3002
CAMERA Y IN 1 (B1)
Y IN 2 (B2)
GND 3
CAMERA C IN 4
C IN 5
(TO LUMINANCE & CHROMINANCE)P3001
P3501·1 P.B RF Y IN 1
P3501·2 GND (RF) 2
P3501·3 REC Y OUT 3
P3501·4 PB 5V 4
P3501·5 NON REC DATA 5 (A1)
P3501·6 ZONE 6 (A2)
P3501·7 P.B CHROMA IN 7
P3501·8 REC C 8
P3501·9 AD REC Ⓗ 9
P3501·10 CAMERA Y IN 10
P3501·11 EDIT Ⓗ 11
P3501·12 CAMERA C IN 12
P3501·13 PB 9V 13
P3501·14 SW 5V 14
P3501·15 VIDEO OUT 15 (A3)
P3501·16 GND 16
P3501·17 EVF OUT 17 (A4)
P3501·18 EE Ⓗ 18
P3501·19 19
P3501·20 C.R Ⓗ 20
P3501·21 VSS OUT 21 (C1)
P3501·22 V LOCK PLUSE 22 (C2)
P3501·23 HEAD SW 23
P3501·24 4.43MHz 24
Q3007 2SC3931 (BUFFER)
Q3008 2SD1819 (AMP)
RF FREQ
VR3005 500B
Q3010 2SD1819 (AMP)
Q3015 2SC3931 (BUFFER)
Q3005 2SD1819 (AMP)
TP3006
VR3002 2KB
REC Y
IC3002 MST001MS
2/3 SDJ
SEARCH
PHASE COM.
VCO
Q3020 2SD1819 (AMP)
IC3004 TL8809F
1H DL
Q3006 2SD1819 (AMP)
FL3003 ELB4A02C
VR3001 2KB
DOC
D3005 MA141K
IC3003 AN3580S
DATA MIX
DET
CL
A LINE
B LINE
C LINE
D LINE
QR8001 XN1212
(C.R Ⓗ ON)
(EE Ⓗ ON)
FL8001 ELB4B010
5.06MHz
AFC
VR8007 20KB
X8001 VSX 0188
TP8001
TP8003
TP8004
IC8001 M52059AFP
DIGITAL M.M.
ROTARY
SUB BM
FS1
MMV
VCXO
BUFFER
APC DET
SIDE LOCK
DET ADJ
SENSE
CPS/CPN
PC DET
90
APC PC
PB KILLER SW
6dB
ACC DET
AFC DET
3205H VCO
BURST DOWN
COMB AMP
4dB
PILOT BURST ON/OFF
PHASE SW
PILOT BURST GEN
BURST UP
ACC AMP
KILLER DET
MAIN BM
PB AMP
REC KILLER SW
QR8005 UN5212 (P.B Ⓗ ON)
QR8006 XN1501 (AMP)
QR8007 XN1213
(PB ON)
(REC ON)
4.43MHz
FL8008 ELB4B024
FL8009 VLF0750
DL8001 VL00174
IN OUT
TP8002
VR8001 1KB
REC C
QR8004 UN5212 (AD REC Ⓗ ON)
QR3006 UN5213
QR3008 UN5212 (EDIT Ⓗ ON)
FL8003 VLF0769
FL8002 ELB4B048
QR3001 UN5212
1.4MHz
D3004 MA141K
IC3001 VEFH08D
PICT
MIX
EE·W DELAY
CLP
MUTE
AMP
S.SEP
DET
AGC

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

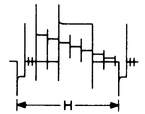
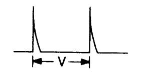
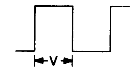
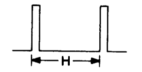
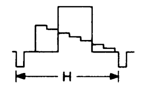
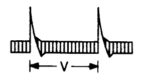
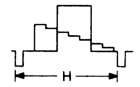
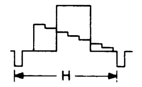
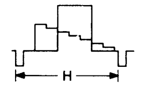
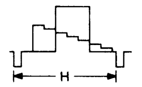
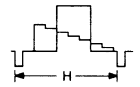
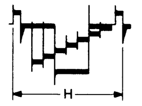
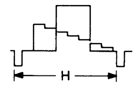
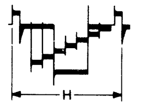
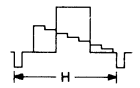
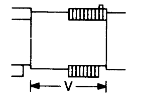
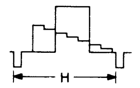
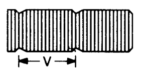
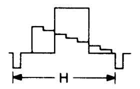
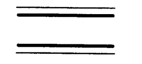

IC3003
AN3580S
DATA MIX
DET
VHS OFF
CL
DET
CL
DET
AMP
EE
VV
GND
GND2
VCC
Q3003
2SD1819
(AMP)
FL3002
VLF0806
Q3021
2SD1819
(AMP)
Q3002
2SC3931
(AMP)
TP3005
EE Y
VR3003
500B
Q3012
2SC3931
(BUFFER)
Q3013
2SB1218
(AMP)
Q3014
2SB1218
(BUFFER)
Q3001
2SD1819
(AMP)
FL3001
ELB4C014
VR3004
50KB
PBY
PICT
MIX
EDIT LNC
LOIC
HPE
LIM
LPF
NC
EE·W DELAY
CLP
MUTE
AMP
S.SEP
LPF
DET
AGC
DOC
HPF
AMP
AMP
LIM
ATT
DETAIL INC
AMP
CLP
CLP
NLDE NLE
ME
DET
LIM
DEM
LIM
MIX
LIM
EQ
ENV
PL
DOP
LPF
HPF
MOD
CLIP
TP3001
TP3004
IC3001
VEFH08D
D LINE
F LINE
(A1)
(A2)
(A3)
(A4)
(D1)
(D2)
(F1)
(F2)
(F3)
(F4)
DOC
D3005
MA141K
D3003
MA141K

Y PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR
IEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

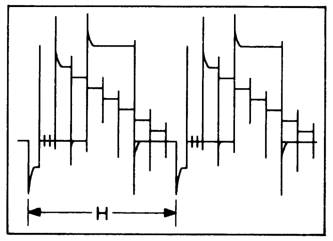
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS (   ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

12 13 14 15 16 17 18

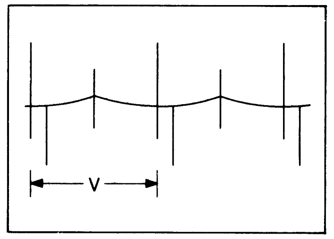
IC3001 (VEFH08D)

PIN NO.	WAVEFORM	PIN NO.	WAVEFORM
2	 0.7Vp-p (REC)	19	 1.0Vp-p (REC/P.B)
3	 4.0Vp-p (REC/P.B)	20	 4.5Vp-p (REC/P.B)
6	 0.8Vp-p (REC) 0.9Vp-p (P.B)	21	 0.4Vp-p (REC) 0.45Vp-p (P.B)
7	 0.8Vp-p (REC) 0.9Vp-p (P.B)	22	 2.2Vp-p (REC/P.B)
8	 0.8Vp-p (REC) 0.9Vp-p (P.B)	24 , 25	 0.8Vp-p (REC) 0.85Vp-p (P.B)
10	 0.36Vp-p (REC) 0.4Vp-p (P.B)	31	 0.85Vp-p (P.B)
13	 0.45Vp-p (P.B)	33	 0.3Vp-p (P.B)
14	 0.4Vp-p (REC) 0.45Vp-p (P.B)	35	 1.5Vp-p (P.B)
16	 0.8Vp-p (REC) 0.9Vp-p (P.B)	39	 0.6Vp-p (P.B)
18	 0.8Vp-p (REC) 0.9Vp-p (P.B)	42	 1.4Vp-p (REC)

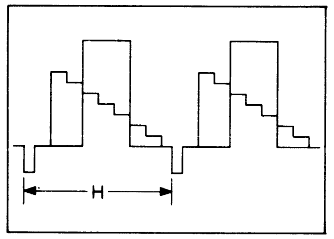
LUMINANCE CIRCUIT TP (Test Point) WAVEFORM (REF. NO. 3000 Series)



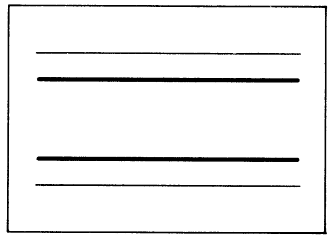
TP3001 REC
0.2V/20μsec. div. 0.7Vp-p



TP3004 PLAY
0.2V/10msec. div. 0.6Vp-p

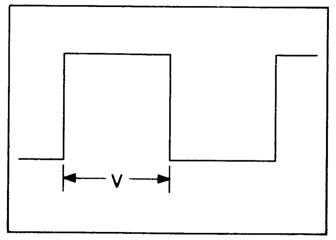


TP3005 REC/PLAY
0.5V/20μsec. div. 1.2Vp-p

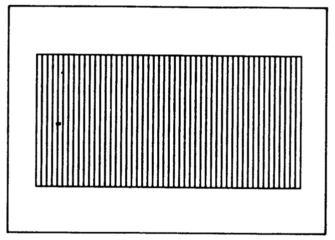


TP3006 REC
0.5V/20μsec. div. 1.4Vp-p

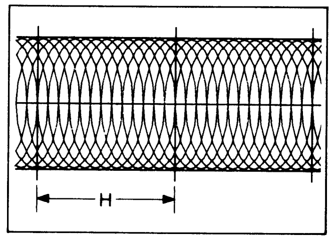
CHROMINANCE CIRCUIT TP (Test Point) WAVEFORM (REF. NO. 8000 Series)



TP8002 REC/PLAY
0.2V/10msec. div. 0.4Vp-p

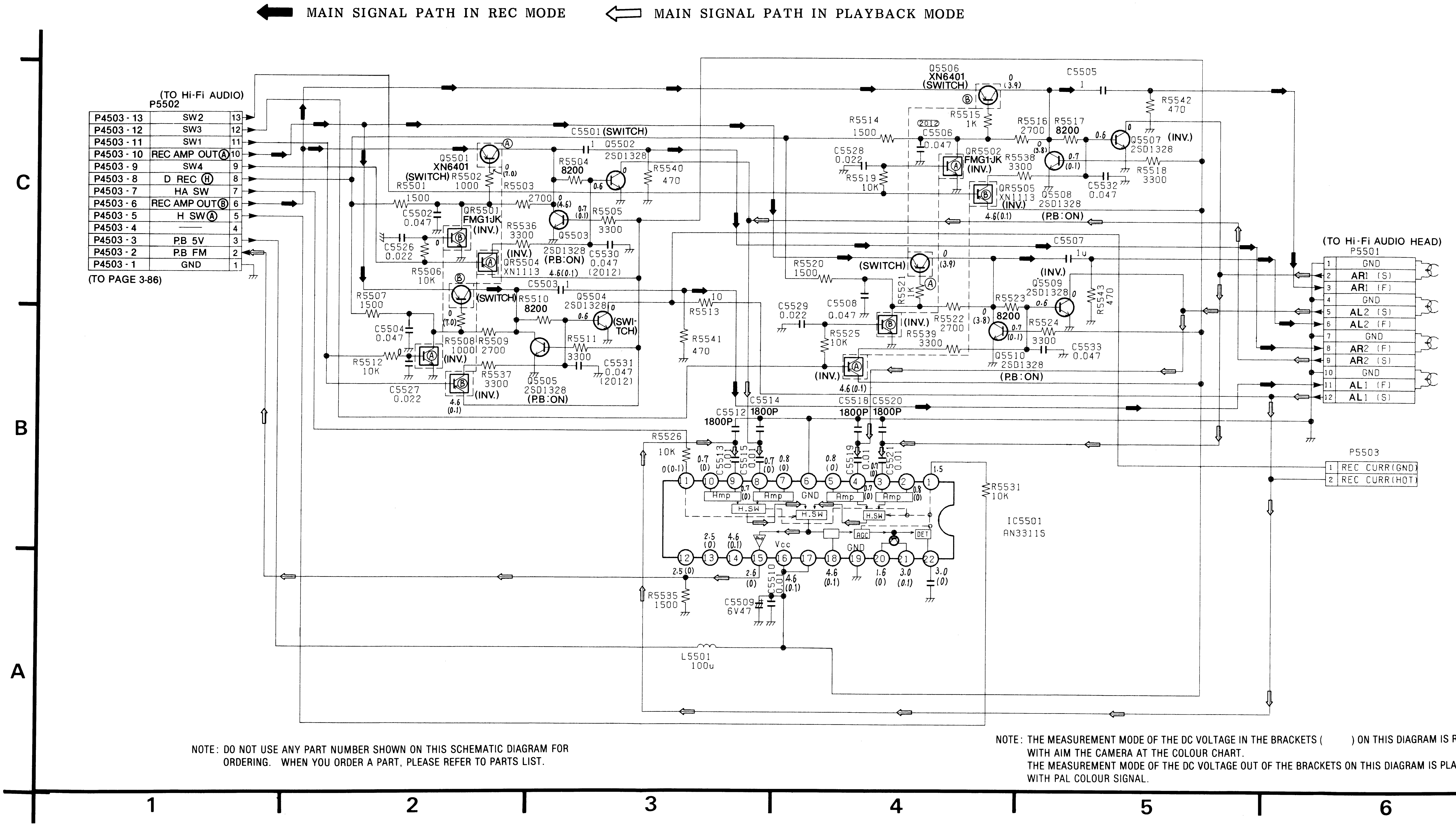


TP8003 0.2V/20μsec. div.
REC: 0.51Vp-p
PLAY: 0.62Vp-p



TP8004 REC/PLAY
0.5V/20μsec. div. 1.1Vp-p

3-28. Hi-Fi AUDIO HEAD AMP SCHEMATIC DIAGRAM

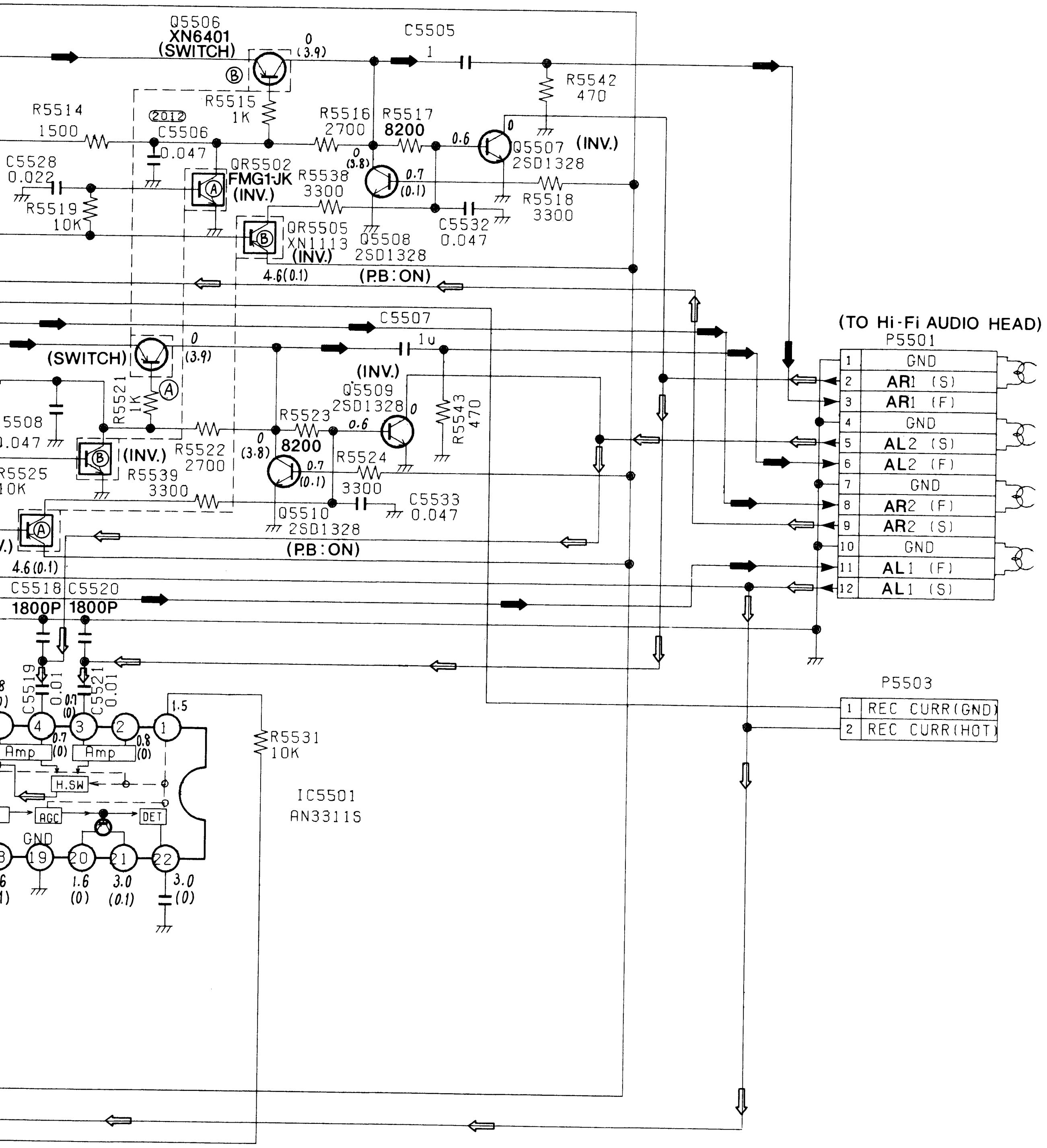

MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH IN PLAYBACK MODE
C
B
A
1
2
3
4
5
6
(TO Hi-Fi AUDIO)
P5502
P4503 - 13 SW2 13
P4503 - 12 SW3 12
P4503 - 11 SW1 11
P4503 - 10 REC AMP OUTⒶ 10
P4503 - 9 SW4 9
P4503 - 8 D REC Ⓗ 8
P4503 - 7 HA SW 7
P4503 - 6 REC AMP OUTⒷ 6
P4503 - 5 H SWⒶ 5
P4503 - 4 —— 4
P4503 - 3 P.B 5V 3
P4503 - 2 P.B FM 2
P4503 - 1 GND 1
(TO PAGE 3-86)
Q5501
XN6401
(SWITCH)
R5501 1500
R5502 1000
R5503 2700
C5502 0.047
C5526 0.022
QR5501
FMG1-JK
(INV.)
QR5504
XN1113
R5536 3300
Q5503
2SD1328
(P.B:ON)
C5530 0.047
(2012)
C5501 (SWITCH) 1
Q5502
2SD1328
R5504 8200
R5505 3300
R5540 470
R5506 10K
R5507 1500
C5503 1
(SWITCH)
R5510 8200
Q5504
2SD1328
(SWI-TCH)
C5504 0.047
R5508 1000
R5509 2700
R5511 3300
C5531 0.047
(2012)
R5512 10K
C5527 0.022
R5537 3300
Q5505
2SD1328
(P.B:ON)
(INV.)
R5513 10
R5541 470
Q5506
XN6401
(SWITCH)
C5505 1
R5542 470
R5514 1500
R5515 1K
C5506 0.047
(2012)
R5516 2700
R5517 8200
Q5507 (INV.)
2SD1328
C5528 0.022
R5519 10K
QR5502
FMG1-JK
(INV.)
R5538 3300
R5518 3300
C5532 0.047
QR5505
XN1113
(INV.)
Q5508
2SD1328
(P.B:ON)
C5507 1u
R5520 1500
(SWITCH)
R5521 1K
(INV.)
Q5509
2SD1328
R5543 470
C5529 0.022
C5508 0.047
R5522 2700
R5523 8200
R5524 3300
R5525 10K
R5539 3300
Q5510
2SD1328
(P.B:ON)
C5533 0.047
(INV.)
C5512 1800P
C5514 1800P
C5518 1800P
C5520 1800P
R5526 10K
C5513 0.01
C5515 0.01
C5519 0.01
C5521 0.01
R5531 10K
IC5501
AN3311S
Hmp
Amp
GND
H.SW
AGC
DET
Vcc
C5510 0.01
C5509 6V47
R5535 1500
L5501 100u
(TO Hi-Fi AUDIO HEAD)
P5501
1 GND
2 AR1 (S)
3 AR1 (F)
4 GND
5 AL2 (S)
6 AL2 (F)
7 GND
8 AR2 (F)
9 AR2 (S)
10 GND
11 AL1 (F)
12 AL1 (S)
P5503
1 REC CURR(GND)
2 REC CURR(HOT)

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS R
WITH AIM THE CAMERA AT THE COLOUR CHART.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLA
WITH PAL COLOUR SIGNAL.

Back Page:
LUMINANCE & CHROMIANNCE
PACK Section

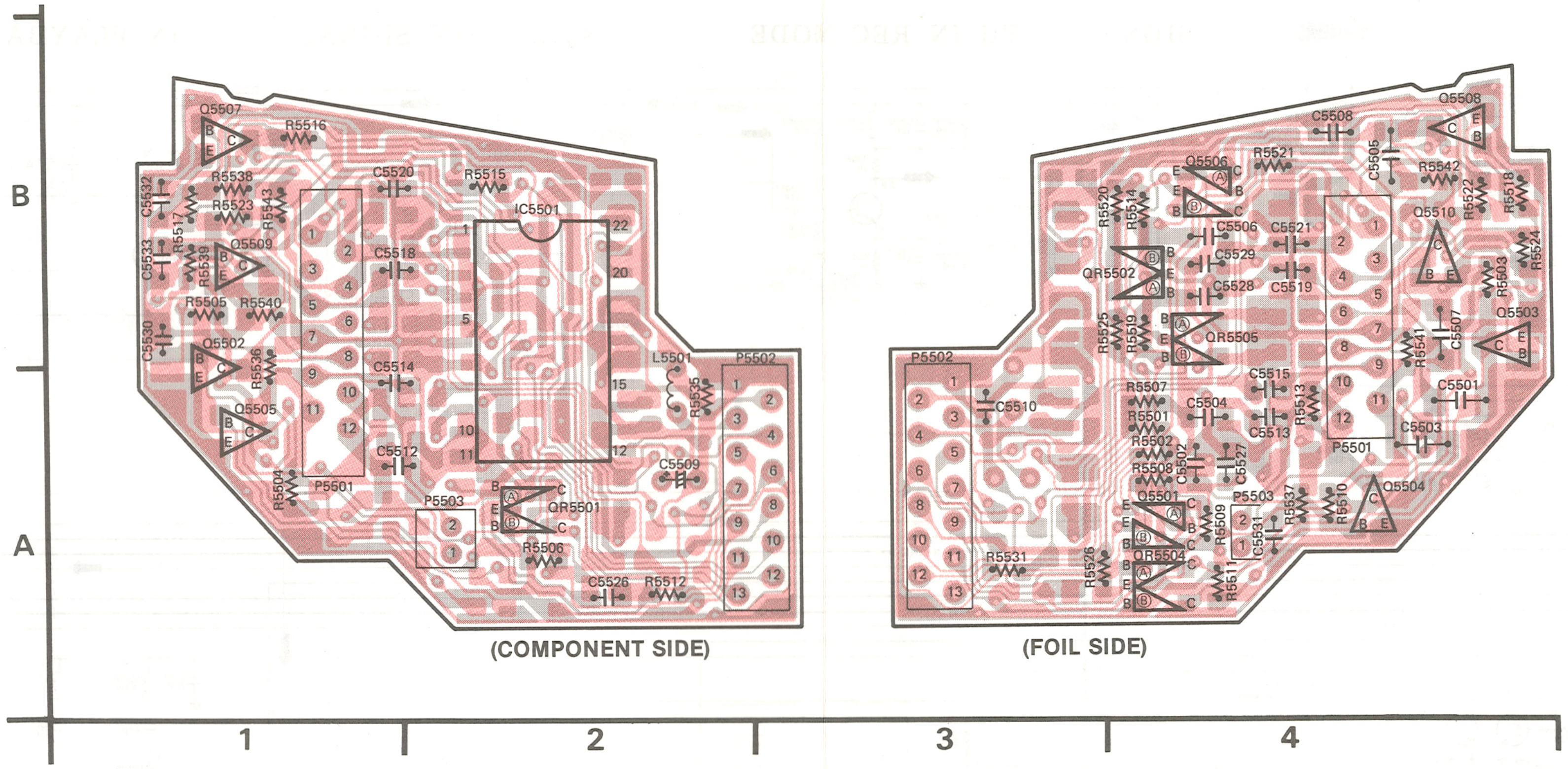
PLAYBACK MODE



Q5506
XN6401
(SWITCH)
0
(3.9)
Ⓑ
R5515
1K
C5505
1
R5542
470
R5514
1500
2012
C5506
0.047
R5516
2700
R5517
8200
0.6
0
Q5507
2SD1328
(INV.)
C5528
0.022
R5519
10K
QR5502
FMG1-JK
(INV.)
Ⓐ
R5538
3300
0
(3.8)
0.7
(0.1)
R5518
3300
QR5505
XN1113
(INV.)
Ⓑ
Q5508
2SD1328
C5532
0.047
4.6(0.1)
(P.B:ON)
C5507
1u
(TO Hi-Fi AUDIO HEAD)
P5501
1 GND
2 AR1 (S)
3 AR1 (F)
4 GND
5 AL2 (S)
6 AL2 (F)
7 GND
8 AR2 (F)
9 AR2 (S)
10 GND
11 AL1 (F)
12 AL1 (S)
(SWITCH)
0
(3.9)
Ⓐ
R5521
1K
(INV.)
Q5509
2SD1328
0
R5543
470
5508
.047
R5523
0.6
0
(3.8)
8200
R5522
2700
(INV.)
Ⓑ
R5524
0.7
(0.1)
3300
R5525
10K
R5539
3300
Q5510
2SD1328
C5533
0.047
(P.B:ON)
Ⓐ
4.6(0.1)
C5518
1800P
C5520
1800P
C5519
0.01
C5521
0.01
0.7
(0)
1.5
4
3
2
1
0.7
(0)
Amp
Amp
0.8
(0)
H.SW
AGC
DET
GND
19
20
21
22
1.6
(0)
3.0
(0.1)
3.0
(0)
R5531
10K
IC5501
AN3311S
P5503
1 REC CURR(GND)
2 REC CURR(HOT)

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS (   ) ON THIS DIAGRAM IS RECORD MODE WITH AIM THE CAMERA AT THE COLOUR CHART.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

3-29. Hi-Fi AUDIO HEAD AMP C.B.A. (VEP05133B)


B
A
1
2
3
4
Q5507
R5516
R5538
R5523
C5520
R5515
IC5501
C5532
R5517
C5533
Q5509
C5518
R5505
R5540
C5530
Q5502
Q5505
C5514
C5512
R5504
P5501
P5503
QR5501
R5506
C5526
R5512
L5501
P5502
C5509
Q5508
C5508
Q5506
R5521
C5505
R5542
Q5510
R5522
R5518
R5520
R5514
C5506
C5521
C5529
QR5502
C5528
C5519
R5503
R5524
QR5505
Q5503
R5525
R5519
C5507
R5541
C5515
C5510
R5507
R5501
C5504
C5513
C5501
C5503
R5513
R6502
R5508
C5502
C5527
Q5501
P5503
R5509
R5537
R5510
Q5504
QR5504
R5531
R5526
C5531
R5511

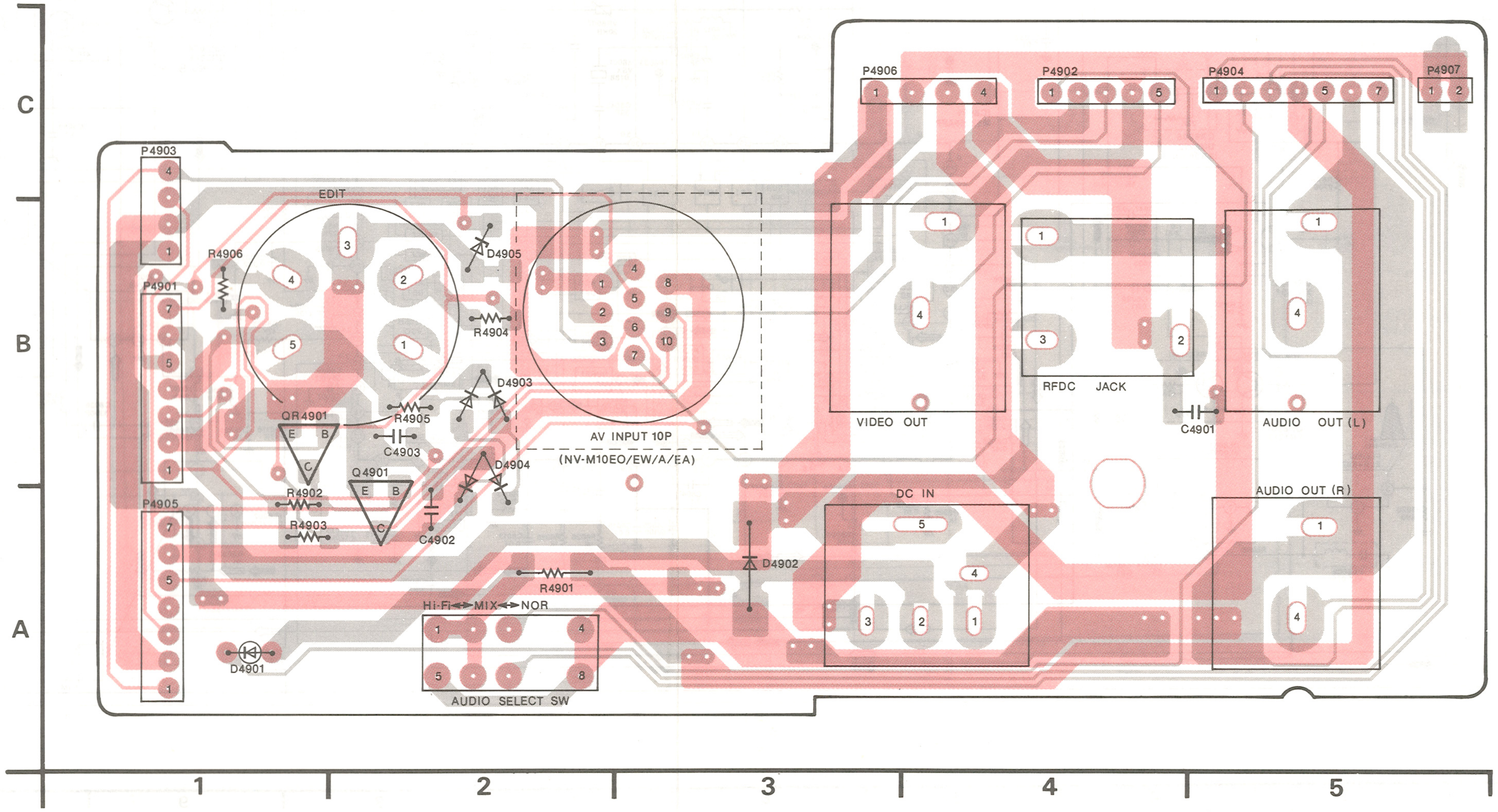
(COMPONENT SIDE)

(FOIL SIDE)

Hi-Fi AUDIO HEAD AMP C.B.A.		
Transistor		
Q5501	A-4	Ⓕ
Q5502	B-1	©
Q5503	B-4	Ⓕ
Q5504	A-4	Ⓕ
Q5505	A-1	©
Q5506	B-4	Ⓕ
Q5507	B-1	©
Q5508	B-4	Ⓕ
Q5509	B-1	©
Q5510	B-4	Ⓕ
Transistor & Resistor		
QR5501	A-2	©
QR5502	B-4	Ⓕ
QR5504	A-4	Ⓕ
QR5505	B-4	Ⓕ
Integrated Circuit		
IC5501	B-2	©
Connector		
P5501	A-1	©
P5501	A-4	Ⓕ
P5502	B-3	©
P5502	B-3	Ⓕ
P5503	A-2	©
P5503	A-4	Ⓕ

ADDRESS INFORMATION
©... COMPONENT SIDE
Ⓕ... FOIL SIDE

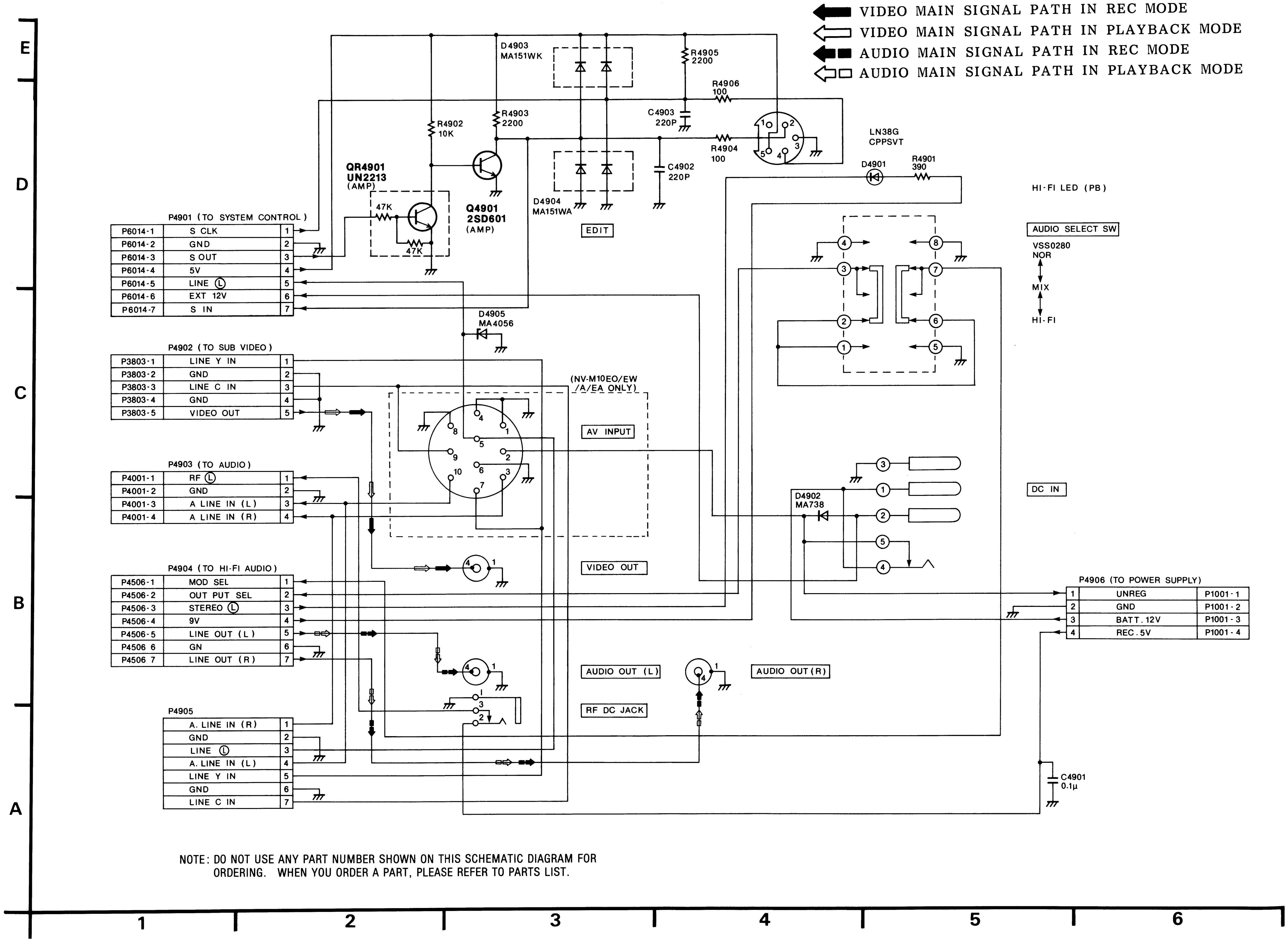
3-30. VTR JACK C.B.A. (VEP04281A)


C
B
A
1
2
3
4
5
P4903
P4901
P4905
P4906
P4902
P4904
P4907
EDIT
R4906
D4905
R4904
D4903
QR4901
E
B
C
R4905
C4903
Q4901
R4902
R4903
C4902
D4904
AV INPUT 10P
(NV-M10EO/EW/A/EA)
VIDEO OUT
RFDC JACK
C4901
AUDIO OUT (L)
AUDIO OUT (R)
DC IN
D4902
R4901
Hi-Fi◄►MIX◄►NOR
AUDIO SELECT SW
D4901

VTR JACK C.B.A.	
Transistor	
Q4901	B-2
Transistor & Resistor	
QR4901	B-2
Connector	
P4901	B-1
P4902	C-4
P4903	C-1
P4904	C-5
P4905	A-1
P4906	C-3
P4907	C-5

ADDRESS INFORMATION

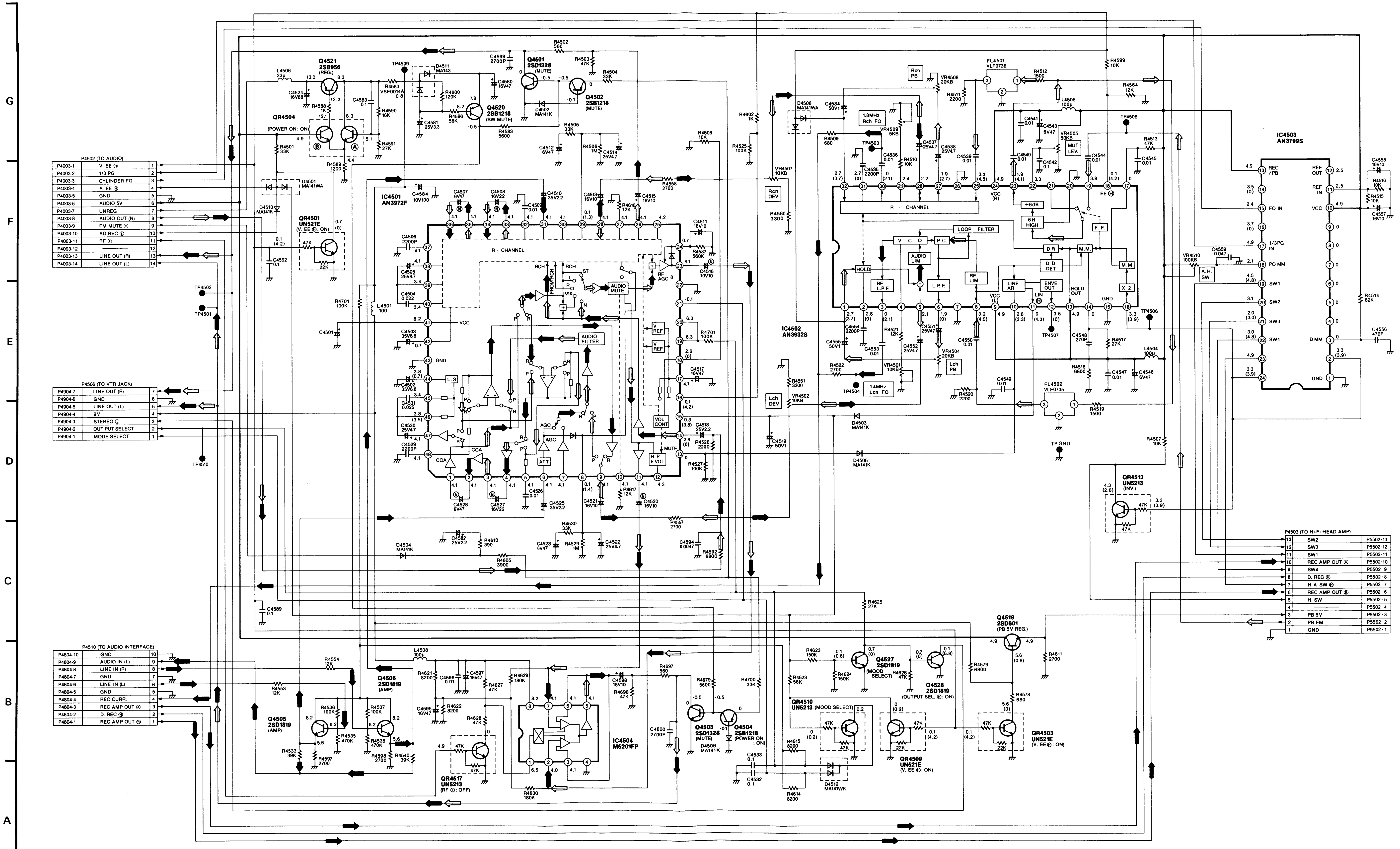
3-31. VTR JACK SCHEMATIC DIAGRAM


VIDEO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE
AUDIO MAIN SIGNAL PATH IN REC MODE
AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE
E
D
C
B
A
1
2
3
4
5
6
D4903
MA151WK
R4905
2200
R4906
100
C4903
220P
R4904
100
C4902
220P
R4902
10K
R4903
2200
QR4901
UN2213
(AMP)
47K
47K
Q4901
2SD601
(AMP)
D4904
MA151WA
EDIT
LN38G
CPPSVT
D4901
R4901
390
HI-FI LED (PB)
AUDIO SELECT SW
VSS0280
NOR
MIX
HI-FI
P4901 (TO SYSTEM CONTROL)
P6014-1 S CLK 1
P6014-2 GND 2
P6014-3 S OUT 3
P6014-4 5V 4
P6014-5 LINE Ⓛ 5
P6014-6 EXT 12V 6
P6014-7 S IN 7
D4905
MA4056
P4902 (TO SUB VIDEO)
P3803-1 LINE Y IN 1
P3803-2 GND 2
P3803-3 LINE C IN 3
P3803-4 GND 4
P3803-5 VIDEO OUT 5
(NV-M10EO/EW /A/EA ONLY)
AV INPUT
P4903 (TO AUDIO)
P4001-1 RF Ⓛ 1
P4001-2 GND 2
P4001-3 A LINE IN (L) 3
P4001-4 A LINE IN (R) 4
D4902
MA738
DC IN
VIDEO OUT
P4904 (TO HI-FI AUDIO)
P4506-1 MOD SEL 1
P4506-2 OUT PUT SEL 2
P4506-3 STEREO Ⓛ 3
P4506-4 9V 4
P4506-5 LINE OUT (L) 5
P4506 6 GN 6
P4506 7 LINE OUT (R) 7
P4906 (TO POWER SUPPLY)
1 UNREG P1001-1
2 GND P1001-2
3 BATT. 12V P1001-3
4 REC. 5V P1001-4
AUDIO OUT (L)
AUDIO OUT (R)
RF DC JACK
P4905
A. LINE IN (R) 1
GND 2
LINE Ⓛ 3
A. LINE IN (L) 4
LINE Y IN 5
GND 6
LINE C IN 7
C4901
0.1μ

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-32. Hi-Fi AUDIO SCHEMATIC DIAGRAM

➡ MAIN SIGNAL PATH IN REC MODE ⇦ MAIN SIGNAL PATH IN PLAYBACK MODE


IC4501 AN3972F
IC4502 AN3932S
IC4503 AN3799S
IC4504 M5201FP
Q4521 2SB956 (REG.)
QR4504 (POWER ON: ON)
Q4501 2SD1328 (MUTE)
Q4502 2SB1218 (MUTE)
Q4520 2SB1218 (SW MUTE)
QR4501 UN521E
Q4505 2SD1819 (AMP)
Q4506 2SD1819 (AMP)
QR4517 UN5213 (RF Ⓛ: OFF)
Q4503 2SD1328 (MUTE)
Q4504 2SB1218 (POWER ON : ON)
QR4510 UN5213 (MOOD SELECT)
Q4527 2SD1819 (MOOD SELECT)
Q4528 2SD1819 (OUTPUT SEL. Ⓗ: ON)
QR4509 UN521E (V. EE Ⓗ: ON)
Q4519 2SD601 (PB 5V REG.)
QR4503 UN521E (V. EE Ⓗ: ON)
QR4513 UN5213 (INV.)
R - CHANNEL
AUDIO MUTE
AUDIO FILTER
LOOP FILTER
1.8MHz Rch FO
1.4MHz Lch FO
Rch PB
Lch PB
Rch DEV
Lch DEV
FL4501 VLF0736
FL4502 VLF0735
TP GND
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12

P4502 (TO AUDIO)

P4003-1	V. EE Ⓗ	1
P4003-2	1/3 PG	2
P4003-3	CYLINDER FG	3
P4003-4	A. EE Ⓗ	4
P4003-5	GND	5
P4003-6	AUDIO 5V	6
P4003-7	UNREG	7
P4003-8	AUDIO OUT (N)	8
P4003-9	FM MUTE Ⓗ	9
P4003-10	AD REC Ⓛ	10
P4003-11	RF Ⓛ	11
P4003-12	———	12
P4003-13	LINE OUT (R)	13
P4003-14	LINE OUT (L)	14

P4506 (TO VTR JACK)

P4904-7	LINE OUT (R)	7
P4904-6	GND	6
P4904-5	LINE OUT (L)	5
P4904-4	9V	4
P4904-3	STEREO Ⓛ	3
P4904-2	OUT PUT SELECT	2
P4904-1	MODE SELECT	1

P4510 (TO AUDIO INTERFACE)

P4804-10	GND	10
P4804-9	AUDIO IN (L)	9
P4804-8	LINE IN (R)	8
P4804-7	GND	7
P4804-6	LINE IN (L)	6
P4804-5	GND	5
P4804-4	REC CURR.	4
P4804-3	REC AMP OUT Ⓐ	3
P4804-2	D. REC Ⓗ	2
P4804-1	REC AMP OUT Ⓑ	1

P4503 (TO Hi-Fi HEAD AMP)

13	SW2	P5502-13
12	SW3	P5502-12
11	SW1	P5502-11
10	REC AMP OUT Ⓐ	P5502-10
9	SW4	P5502-9
8	D. REC Ⓗ	P5502-8
7	H. A. SW Ⓗ	P5502-7
6	REC AMP OUT Ⓑ	P5502-6
5	H. SW	P5502-5
4	———	P5502-4
3	PB 5V	P5502-3
2	PB FM	P5502-2
1	GND	P5502-1

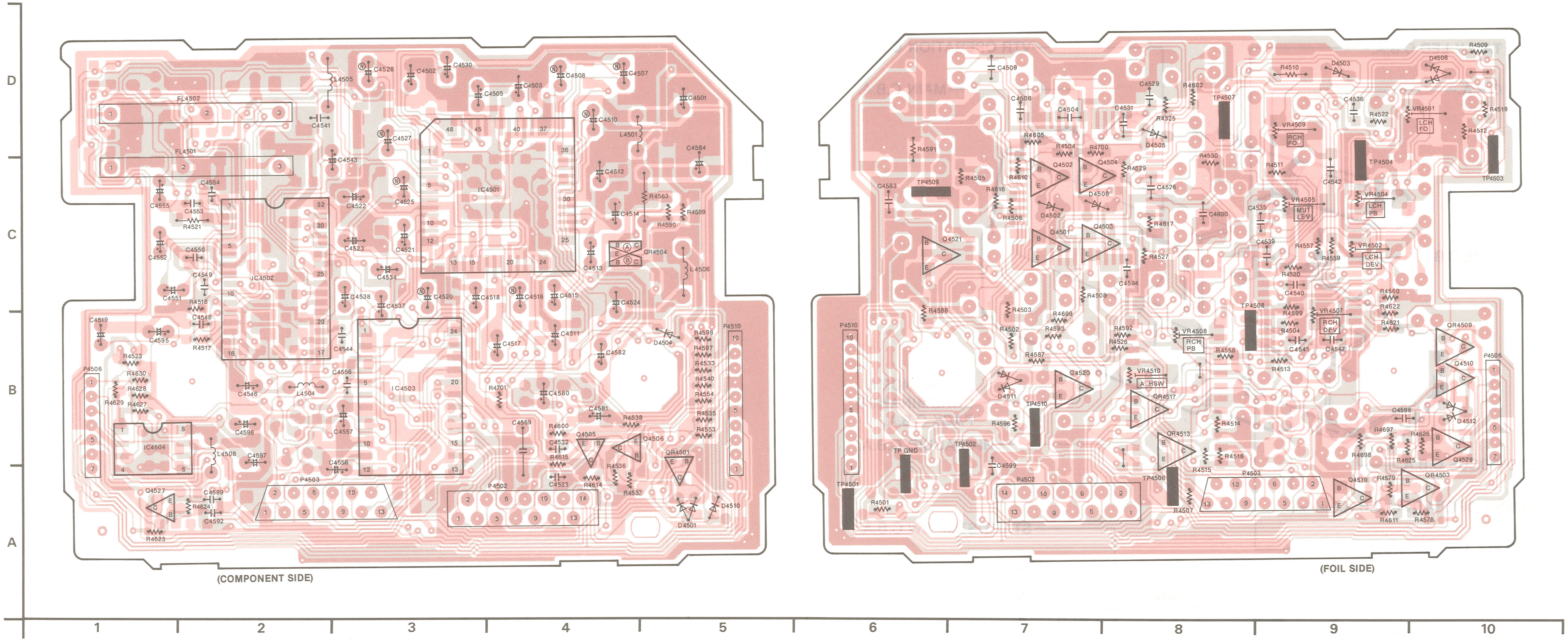
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
- LINE IN SIGNAL LEVEL... −10dB 1kHz

THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

Back Page:
VTR JACK Section

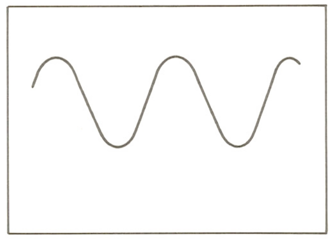
3-33. Hi-Fi AUDIO C.B.A. (VEP04280A)


D
C
B
A
1
2
3
4
5
6
7
8
9
10
IC4501
IC4502
IC4503
IC4504
FL4501
FL4502
P4502
P4503
P4506
P4510
TP4501
TP4502
TP4503
TP4504
TP4506
TP4507
TP4508
TP4509
TP4510
TP GND
QR4501
QR4503
QR4504
QR4509
QR4513
QR4517
VR4501
VR4502
VR4504
VR4505
VR4507
VR4508
VR4509
VR4510
LCH FO
RCH FO
MUT LEV
LCH PB
LCH DEV
RCH DEV
RCH PB
A HSW

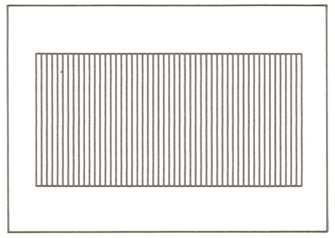
(COMPONENT SIDE)

(FOIL SIDE)

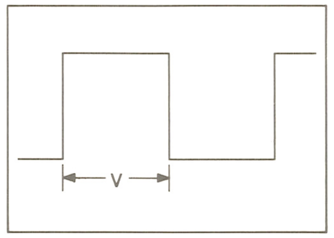
Hi-Fi AUDIO CIRCUIT TP (Test Point) WAVEFORM (REF. NO. 4500 Servies)



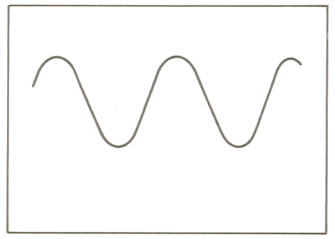
TP4501 PLAY/REC
0.5V/1.0msec. div. 1.6Vp-p



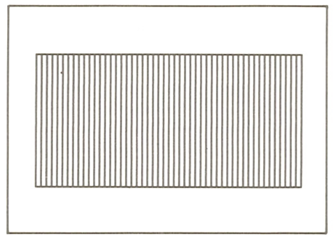
TP4503 REC
0.1V/2.0μsec. div. 0.44Vp-p



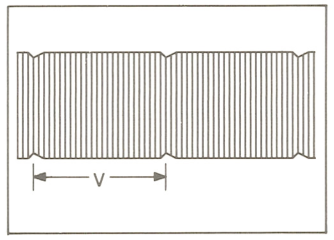
TP4506 PLAY/REC
1.0V/10msec. div. 4Vp-p



TP4502 PLAY/REC
0.5V/1.0msec. div. 1.5Vp-p



TP4504 REC
0.1V/20μsec. div. 0.44Vp-p

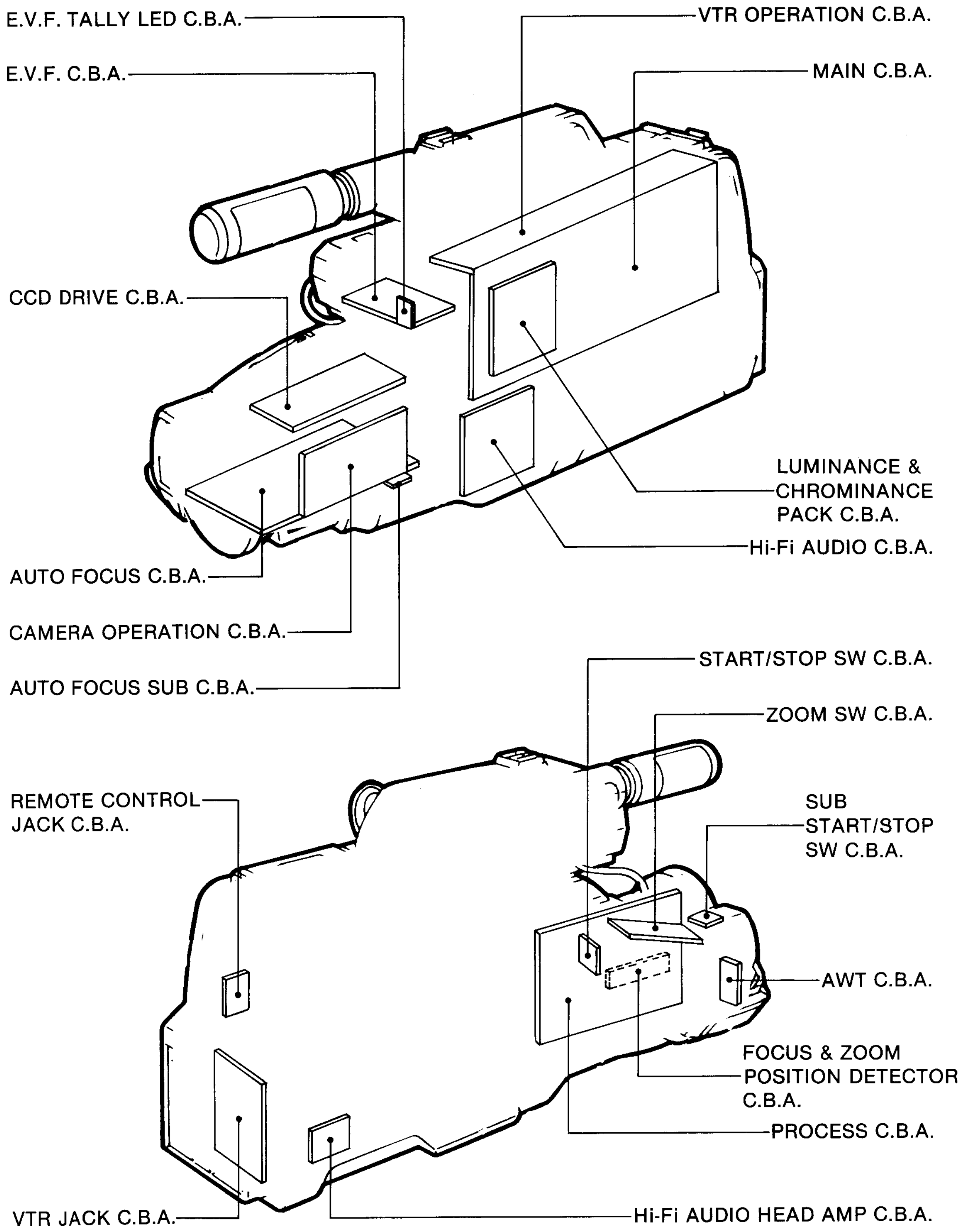


TP4508 PLAY
50mV/5msec. div. 0.18Vp-p

Hi-Fi AUDIO C.B.A.		
Transistor		
Q4501	C-7	Ⓕ
Q4502	C-7	Ⓕ
Q4503	C-8	Ⓕ
Q4504	C-8	Ⓕ
Q4505	B-4	Ⓒ
Q4506	B-5	Ⓒ
Q4510	B-10	Ⓕ
Q4519	A-9	Ⓕ
Q4520	B-7	Ⓕ
Q4521	C-6	Ⓕ
Q4527	A-1	Ⓒ
Q4528	B-10	Ⓕ
Transistor & Resistor		
QR4501	B-5	Ⓒ
QR4503	A-10	Ⓕ
QR4504	C-5	Ⓒ
QR4509	B-10	Ⓕ
QR4513	B-8	Ⓕ
QR4517	B-8	Ⓕ
Integrated Circuit		
IC4501	C-4	Ⓒ
IC4502	C-2	Ⓒ
IC4503	B-3	Ⓒ
IC4504	B-1	Ⓒ
Test Point		
TP4501	A-6	Ⓕ
TP4502	B-7	Ⓕ
TP4503	C-10	Ⓕ
TP4504	C-9	Ⓕ
TP4506	A-8	Ⓕ
TP4507	D-8	Ⓕ
TP4508	B-9	Ⓕ
TP4509	C-6	Ⓕ
TP4510	B-7	Ⓕ
TP GND	A-6	Ⓕ
Adjustment		
VR4501	D-10	Ⓕ
VR4502	C-9	Ⓕ
VR4504	C-9	Ⓕ
VR4505	C-9	Ⓕ
VR4507	B-9	Ⓕ
VR4508	B-8	Ⓕ
VR4509	D-9	Ⓕ
VR4510	B-8	Ⓕ
Connector		
P4502	A-4	Ⓒ
P4502	A-7	Ⓕ
P4503	A-2	Ⓒ
P4503	A-9	Ⓕ
P4506	B-1	Ⓒ
P4506	B-10	Ⓕ
P4510	B-5	Ⓒ
P4510	B-6	Ⓕ

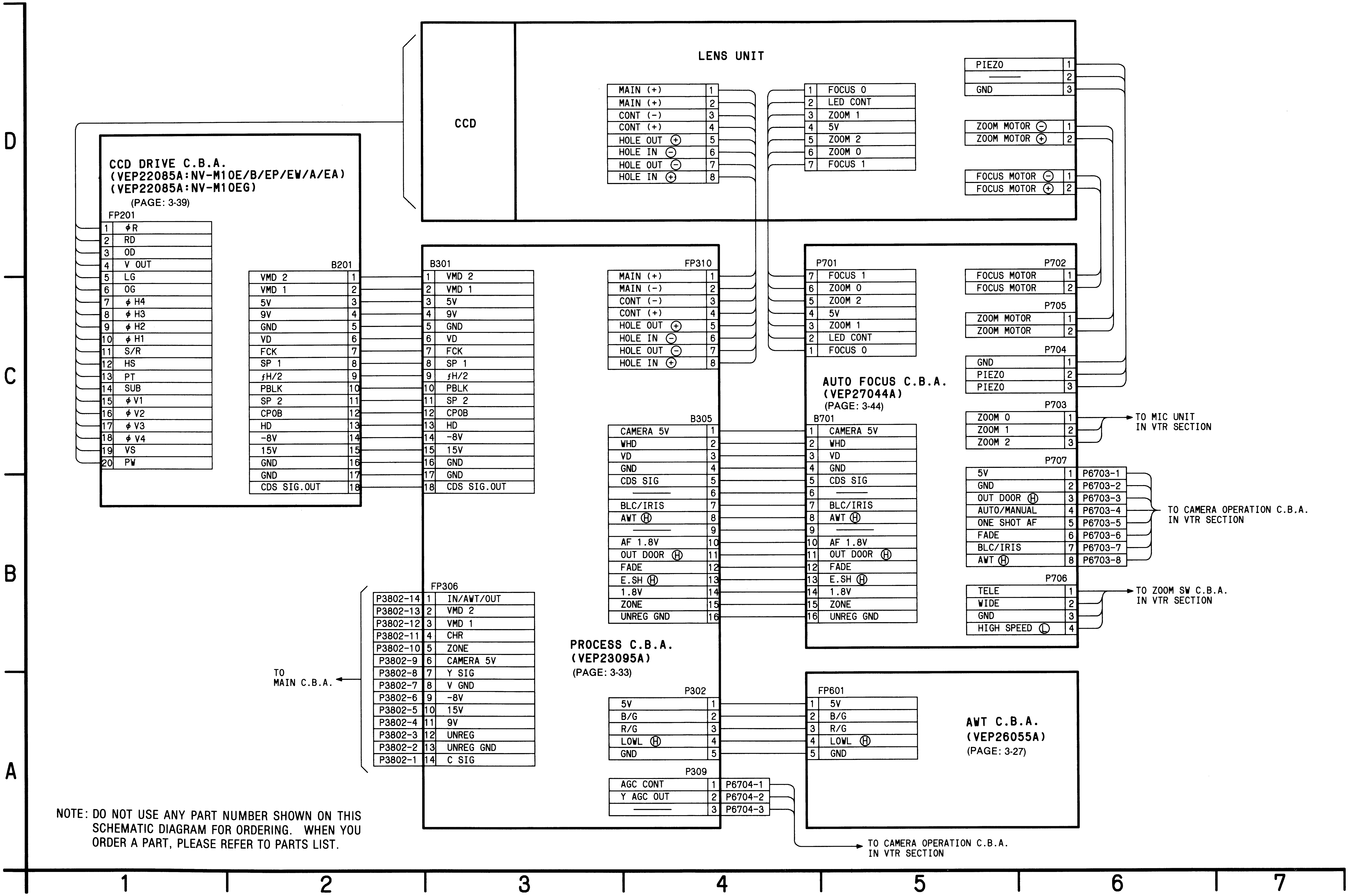
ADDRESS INFORMATION
Ⓒ... COMPONENT SIDE
Ⓕ... FOIL SIDE

3-34. CIRCUIT BOARD LAYOUT


E.V.F. TALLY LED C.B.A.
E.V.F. C.B.A.
VTR OPERATION C.B.A.
MAIN C.B.A.
CCD DRIVE C.B.A.
LUMINANCE & CHROMINANCE PACK C.B.A.
Hi-Fi AUDIO C.B.A.
AUTO FOCUS C.B.A.
CAMERA OPERATION C.B.A.
AUTO FOCUS SUB C.B.A.
START/STOP SW C.B.A.
ZOOM SW C.B.A.
REMOTE CONTROL JACK C.B.A.
SUB START/STOP SW C.B.A.
AWT C.B.A.
FOCUS & ZOOM POSITION DETECTOR C.B.A.
PROCESS C.B.A.
VTR JACK C.B.A.
Hi-Fi AUDIO HEAD AMP C.B.A.

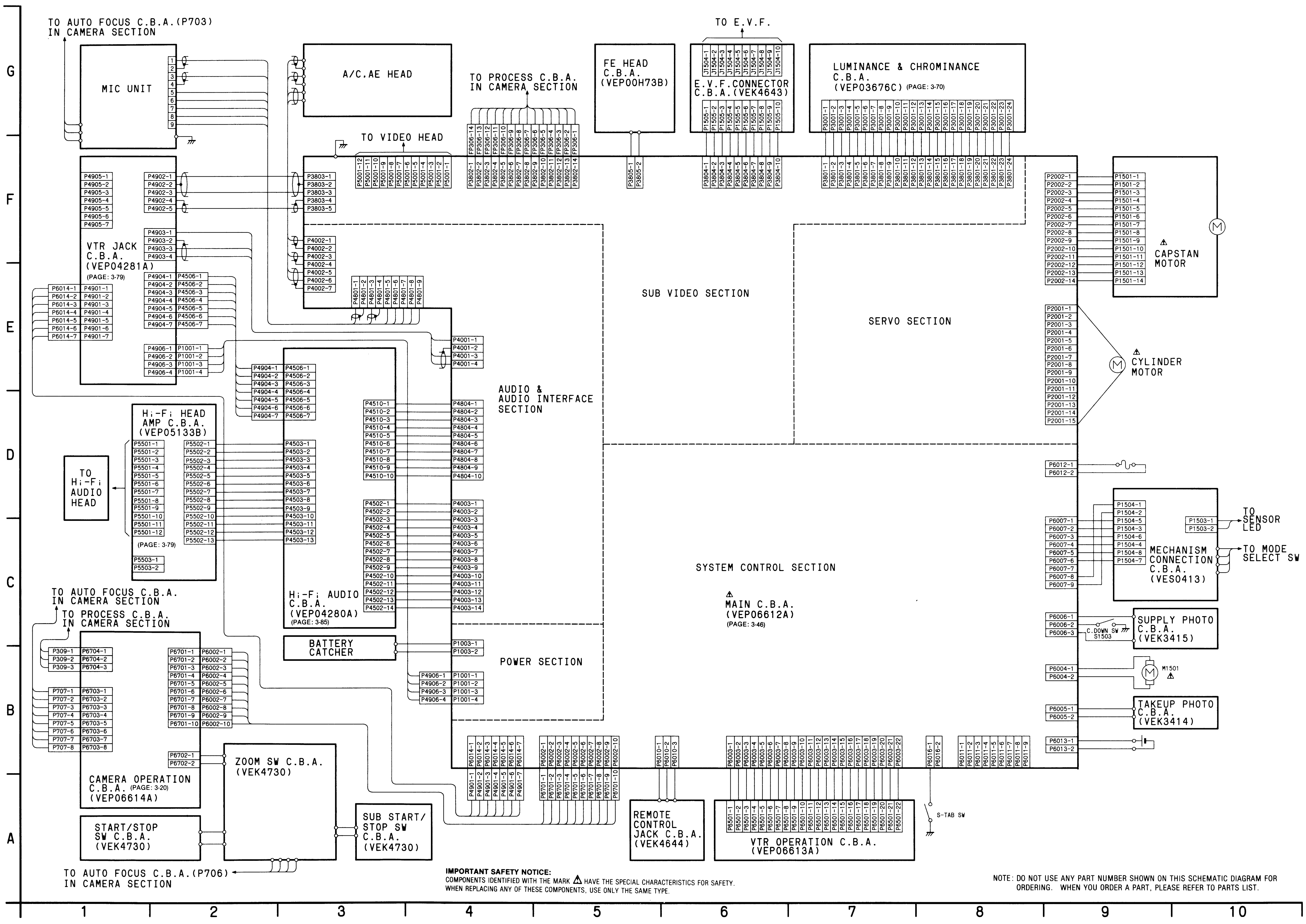
Back Page:
Hi-Fi AUDIO Section

3-35. CAMERA INTERCONNECTION SCHEMATIC DIAGRAM


LENS UNIT
CCD
MAIN (+) 1
MAIN (+) 2
CONT (-) 3
CONT (+) 4
HOLE OUT ⊕ 5
HOLE IN ⊖ 6
HOLE OUT ⊖ 7
HOLE IN ⊕ 8
1 FOCUS 0
2 LED CONT
3 ZOOM 1
4 5V
5 ZOOM 2
6 ZOOM 0
7 FOCUS 1
PIEZO 1
2
GND 3
ZOOM MOTOR ⊖ 1
ZOOM MOTOR ⊕ 2
FOCUS MOTOR ⊖ 1
FOCUS MOTOR ⊕ 2
CCD DRIVE C.B.A.
(VEP22085A:NV-M10E/B/EP/EW/A/EA)
(VEP22085A:NV-M10EG)
(PAGE: 3-39)
FP201
1 ϕR
2 RD
3 OD
4 V OUT
5 LG
6 OG
7 ϕH4
8 ϕH3
9 ϕH2
10 ϕH1
11 S/R
12 HS
13 PT
14 SUB
15 ϕV1
16 ϕV2
17 ϕV3
18 ϕV4
19 VS
20 PW
B201
VMD 2 1
VMD 1 2
5V 3
9V 4
GND 5
VD 6
FCK 7
SP 1 8
ƒH/2 9
PBLK 10
SP 2 11
CPOB 12
HD 13
-8V 14
15V 15
GND 16
GND 17
CDS SIG.OUT 18
B301
1 VMD 2
2 VMD 1
3 5V
4 9V
5 GND
6 VD
7 FCK
8 SP 1
9 ƒH/2
10 PBLK
11 SP 2
12 CPOB
13 HD
14 -8V
15 15V
16 GND
17 GND
18 CDS SIG.OUT
FP310
MAIN (+) 1
MAIN (-) 2
CONT (-) 3
CONT (+) 4
HOLE OUT ⊕ 5
HOLE IN ⊖ 6
HOLE OUT ⊖ 7
HOLE IN ⊕ 8
P701
7 FOCUS 1
6 ZOOM 0
5 ZOOM 2
4 5V
3 ZOOM 1
2 LED CONT
1 FOCUS 0
P702
FOCUS MOTOR 1
FOCUS MOTOR 2
P705
ZOOM MOTOR 1
ZOOM MOTOR 2
P704
GND 1
PIEZO 2
PIEZO 3
AUTO FOCUS C.B.A.
(VEP27044A)
(PAGE: 3-44)
P703
ZOOM 0 1
ZOOM 1 2
ZOOM 2 3
TO MIC UNIT
IN VTR SECTION
B305
CAMERA 5V 1
WHD 2
VD 3
GND 4
CDS SIG 5
——— 6
BLC/IRIS 7
AWT Ⓗ 8
——— 9
AF 1.8V 10
OUT DOOR Ⓗ 11
FADE 12
E.SH Ⓗ 13
1.8V 14
ZONE 15
UNREG GND 16
B701
1 CAMERA 5V
2 WHD
3 VD
4 GND
5 CDS SIG
6 ———
7 BLC/IRIS
8 AWT Ⓗ
9 ———
10 AF 1.8V
11 OUT DOOR Ⓗ
12 FADE
13 E.SH Ⓗ
14 1.8V
15 ZONE
16 UNREG GND
P707
5V 1 P6703-1
GND 2 P6703-2
OUT DOOR Ⓗ 3 P6703-3
AUTO/MANUAL 4 P6703-4
ONE SHOT AF 5 P6703-5
FADE 6 P6703-6
BLC/IRIS 7 P6703-7
AWT Ⓗ 8 P6703-8
TO CAMERA OPERATION C.B.A.
IN VTR SECTION
P706
TELE 1
WIDE 2
GND 3
HIGH SPEED Ⓛ 4
TO ZOOM SW C.B.A.
IN VTR SECTION
FP306
P3802-14 1 IN/AWT/OUT
P3802-13 2 VMD 2
P3802-12 3 VMD 1
P3802-11 4 CHR
P3802-10 5 ZONE
P3802-9 6 CAMERA 5V
P3802-8 7 Y SIG
P3802-7 8 V GND
P3802-6 9 -8V
P3802-5 10 15V
P3802-4 11 9V
P3802-3 12 UNREG
P3802-2 13 UNREG GND
P3802-1 14 C SIG
TO
MAIN C.B.A.
PROCESS C.B.A.
(VEP23095A)
(PAGE: 3-33)
P302
5V 1
B/G 2
R/G 3
LOWL Ⓗ 4
GND 5
FP601
1 5V
2 B/G
3 R/G
4 LOWL Ⓗ
5 GND
AWT C.B.A.
(VEP26055A)
(PAGE: 3-27)
P309
AGC CONT 1 P6704-1
Y AGC OUT 2 P6704-2
——— 3 P6704-3
TO CAMERA OPERATION C.B.A.
IN VTR SECTION
D
C
B
A
1
2
3
4
5
6
7

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

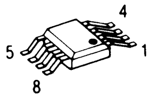
3-36. VTR INTERCONNECTION SCHEMATIC DIAGRAM


TO AUTO FOCUS C.B.A.(P703) IN CAMERA SECTION
MIC UNIT
A/C.AE HEAD
TO PROCESS C.B.A. IN CAMERA SECTION
TO VIDEO HEAD
FE HEAD C.B.A. (VEP00H73B)
TO E.V.F.
E.V.F.CONNECTOR C.B.A.(VEK4643)
LUMINANCE & CHROMINANCE C.B.A. (VEP03676C) (PAGE: 3-70)
VTR JACK C.B.A. (VEP04281A) (PAGE: 3-79)
SUB VIDEO SECTION
SERVO SECTION
CAPSTAN MOTOR
CYLINDER MOTOR
AUDIO & AUDIO INTERFACE SECTION
Hi-Fi HEAD AMP C.B.A. (VEP05133B) (PAGE: 3-79)
TO Hi-Fi AUDIO HEAD
Hi-Fi AUDIO C.B.A. (VEP04280A) (PAGE: 3-85)
BATTERY CATCHER
POWER SECTION
SYSTEM CONTROL SECTION
MAIN C.B.A. (VEP06612A) (PAGE: 3-46)
TO SENSOR LED
MECHANISM CONNECTION C.B.A. (VES0413)
TO MODE SELECT SW
SUPPLY PHOTO C.B.A. (VEK3415)
C.DOWN SW S1503
M1501
TAKEUP PHOTO C.B.A. (VEK3414)
TO AUTO FOCUS C.B.A. IN CAMERA SECTION
TO PROCESS C.B.A. IN CAMERA SECTION
CAMERA OPERATION C.B.A. (PAGE: 3-20) (VEP06614A)
ZOOM SW C.B.A. (VEK4730)
START/STOP SW C.B.A. (VEK4730)
SUB START/STOP SW C.B.A. (VEK4730)
TO AUTO FOCUS C.B.A.(P706) IN CAMERA SECTION
REMOTE CONTROL JACK C.B.A. (VEK4644)
VTR OPERATION C.B.A. (VEP06613A)
S-TAB SW
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10

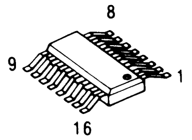
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

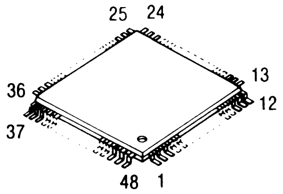
3-37. ICs & TRs INFORMATION



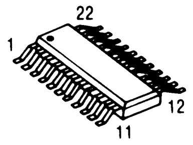
AN6562S
AN1358S
AN6914S
μPC1513G
NJM4558MP
NJM3415M
MST001MS
LM2903M
TL8809F



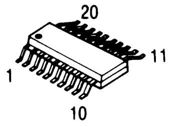
AN3580SB
MN3819S
MN3820S
μPD4094BG
AN2012S
RZ4052BM
AN6664S
MN40175BS
MN4053BS


25
24
36
13
12
37
48
1

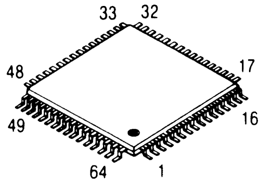
AN2154FAP
AN2254FAP
AN2584NFAP
AN3972FB
AN3346FBP



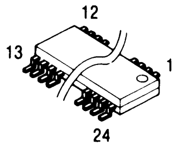
AN3311S



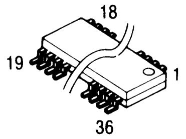
MN3107CS


33
32
48
17
49
16
64
1

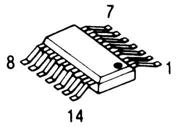
MN15867VFK



AN2510S
AN3799
AN3841SR
μPC2300G



AN3932S



S3500A2
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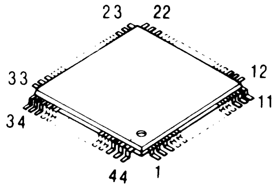
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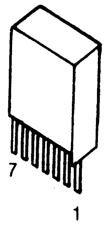

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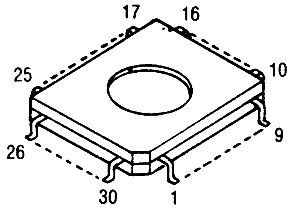
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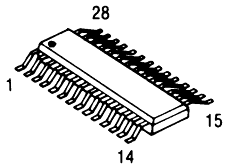

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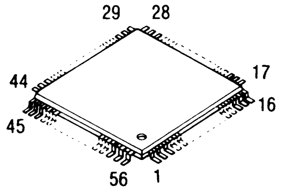
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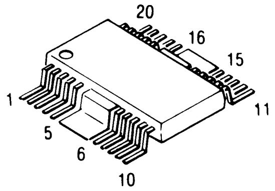
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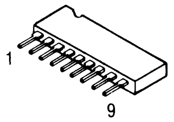

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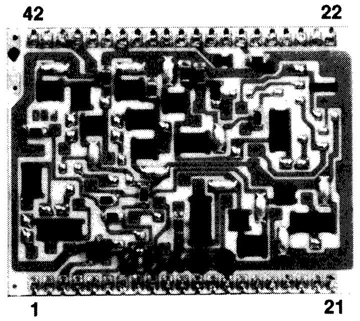

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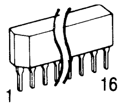

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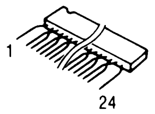

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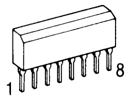

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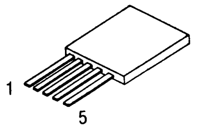
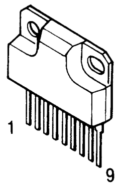


AN6545SP

Back Page:
INTERCONNECTION Section



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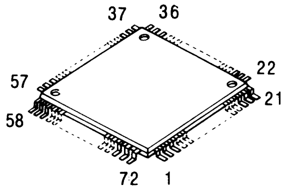
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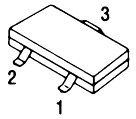

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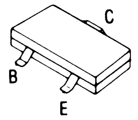

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2SA1255 2SC4176
2SA1532 2SD1328
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2SC3139 2SD601
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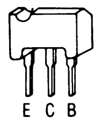

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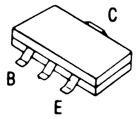

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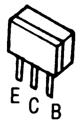

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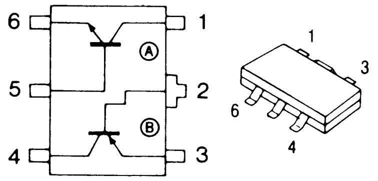
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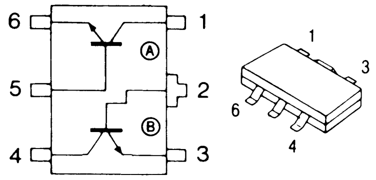
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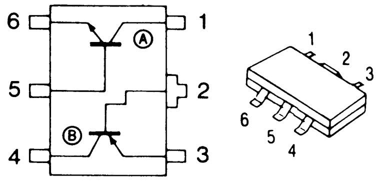
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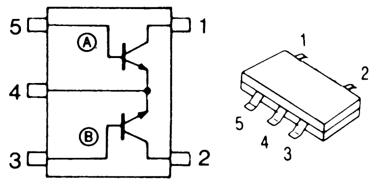
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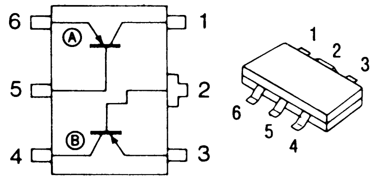
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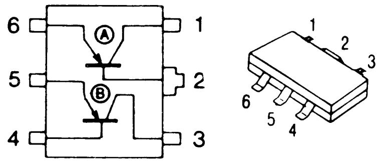
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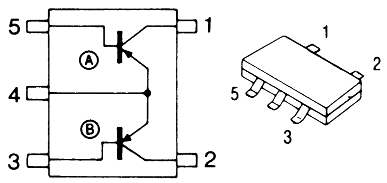

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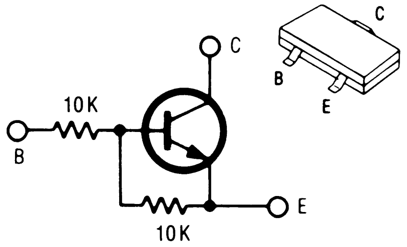
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E
C
B
E

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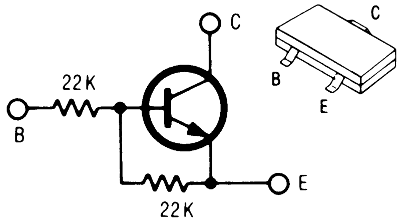
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22K
E
C
B
E

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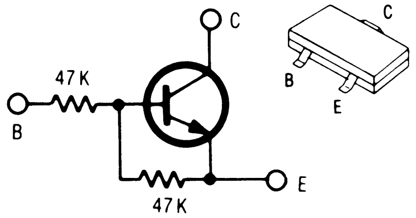
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47K
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C
B
E

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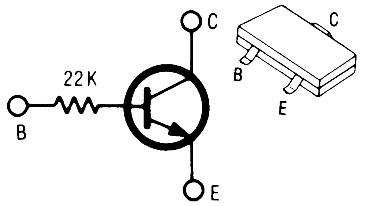
UN5213
GA1L4M



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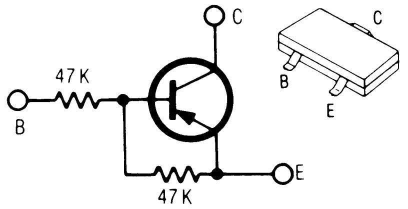
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47K
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C
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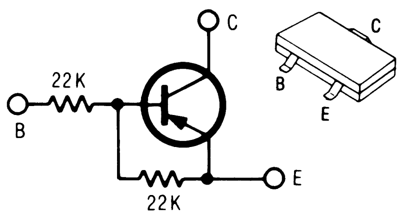
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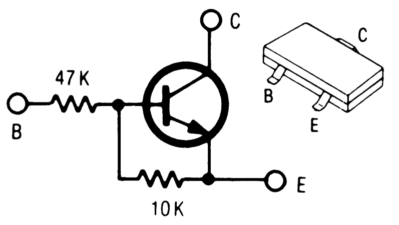
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C
B
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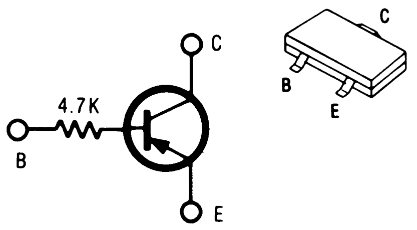

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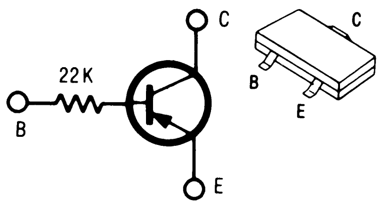

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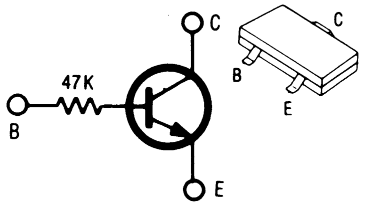

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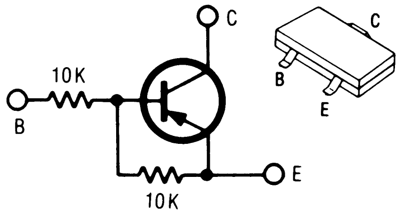
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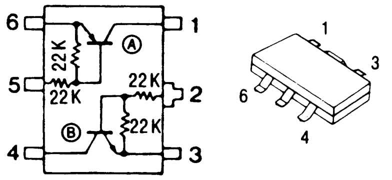
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22K
22K
22K
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Ⓑ
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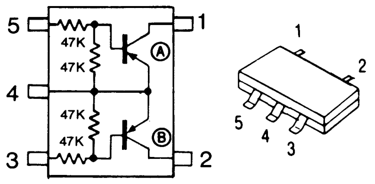
6
4

IMD2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Ⓑ
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4
3

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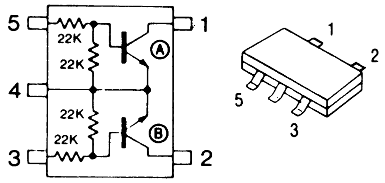
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Ⓑ
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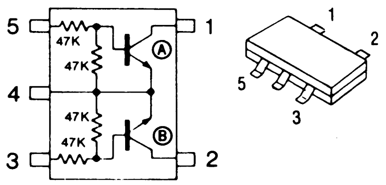
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Ⓑ
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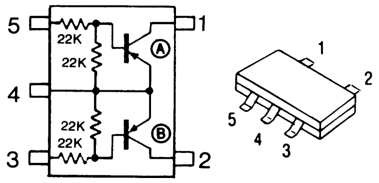
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Ⓑ
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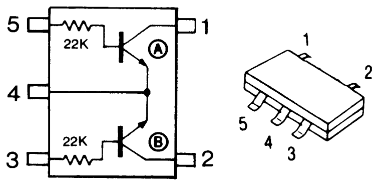
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Ⓐ
Ⓑ
1
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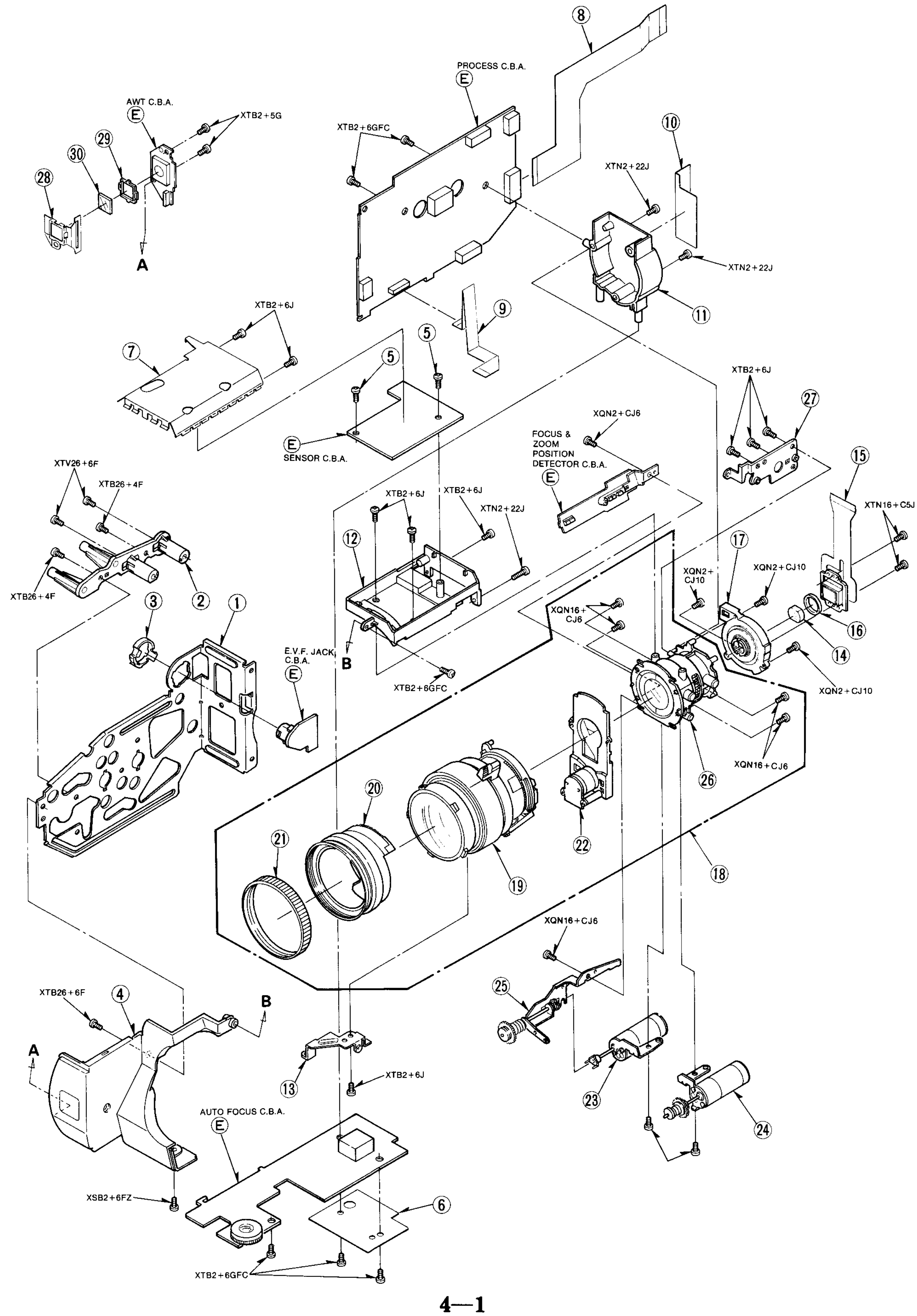
XN1217

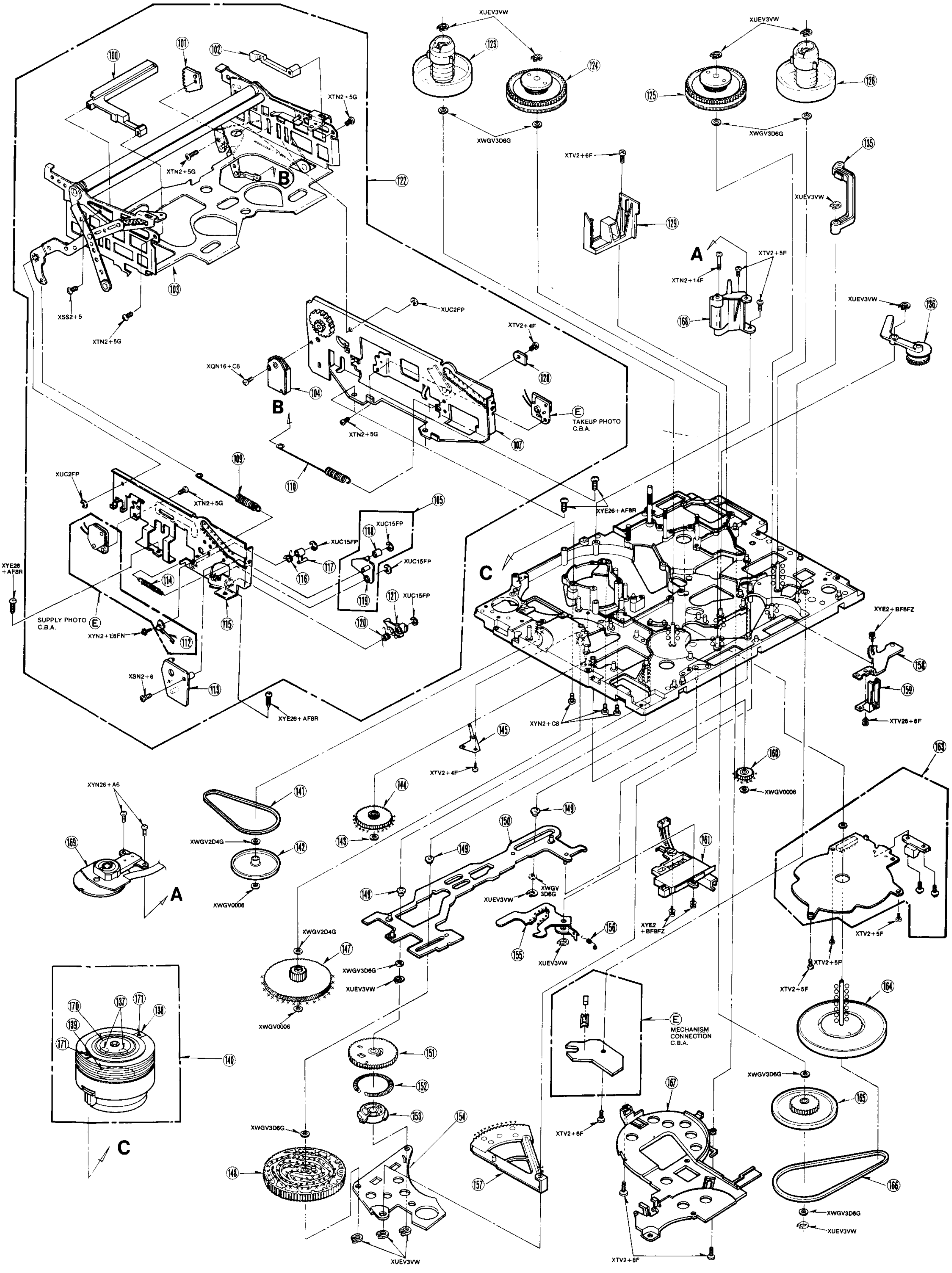
SECTION 4
EXPLODED VIEWS & PARTS LIST

4-1. EXPLODED VIEWS

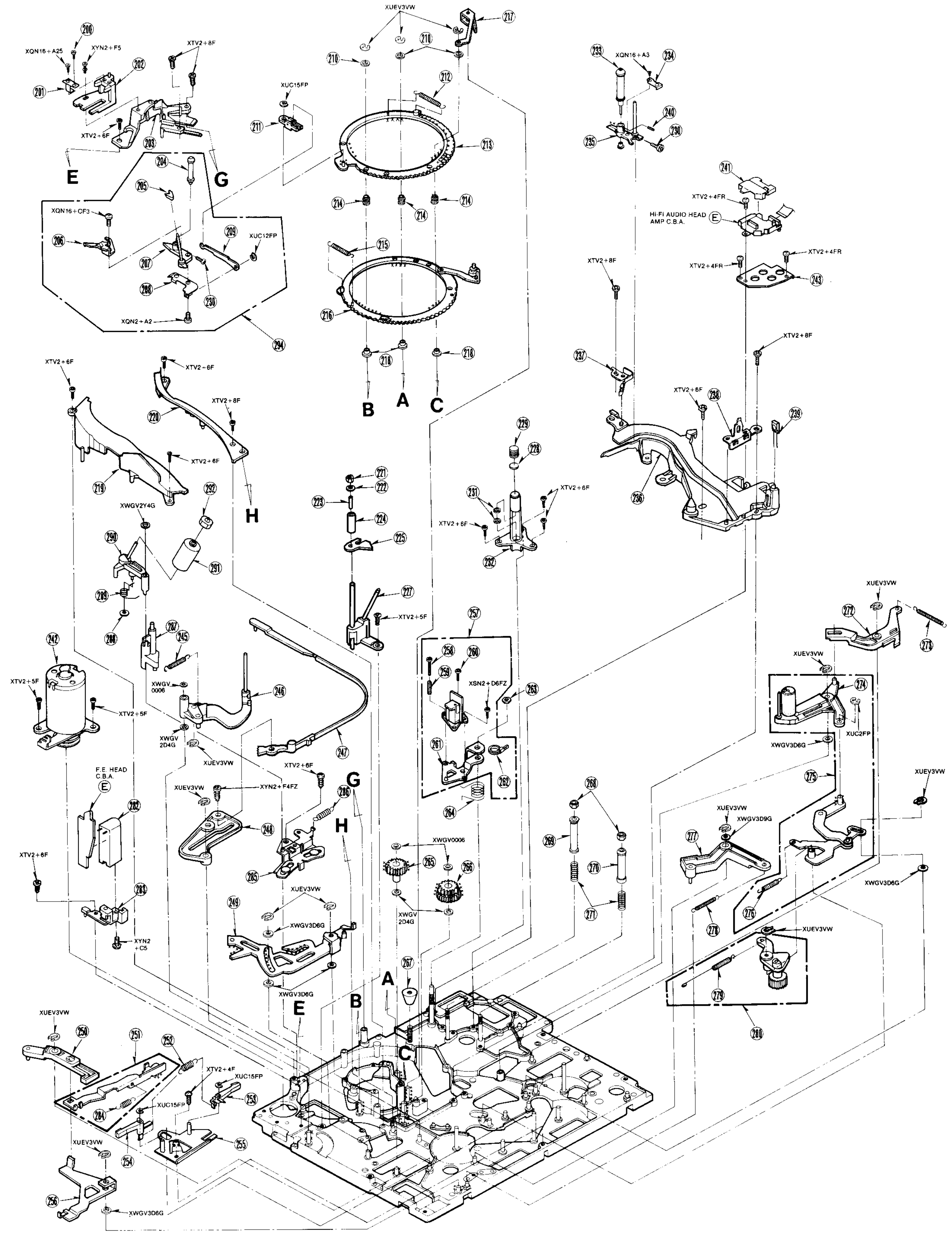
❶ CAMERA LENS SECTION


⑧
PROCESS C.B.A.
Ⓔ
AWT C.B.A.
Ⓔ
XTB2+5G
XTB2+6GFC
⑩
㉙
㉚
㉘
XTN2+22J
XTN2+22J
A
⑪
⑨
XTB2+6J
⑤
⑤
⑦
XTB2+6J
㉗
XQN2+CJ6
FOCUS & ZOOM POSITION DETECTOR C.B.A.
Ⓔ
Ⓔ
SENSOR C.B.A.
⑮
XTV26+6F
XTB26+4F
XTB2+6J
XTB2+6J
XTN2+22J
XTN16+C5J
⑫
⑰
XQN2+CJ10
XQN2+CJ10
XTB26+4F
②
③
①
XQN16+CJ6
⑯
⑭
E.V.F. JACK C.B.A.
Ⓔ
B
XTB2+6GFC
XQN2+CJ10
XQN16+CJ6
⑳
㉖
㉒
㉑
⑱
⑲
XQN16+CJ6
㉕
XTB26+6F
④
B
A
XTB2+6J
⑬
㉓
㉔
AUTO FOCUS C.B.A.
Ⓔ
⑥
XSB2+6FZ
XTB2+6GFC

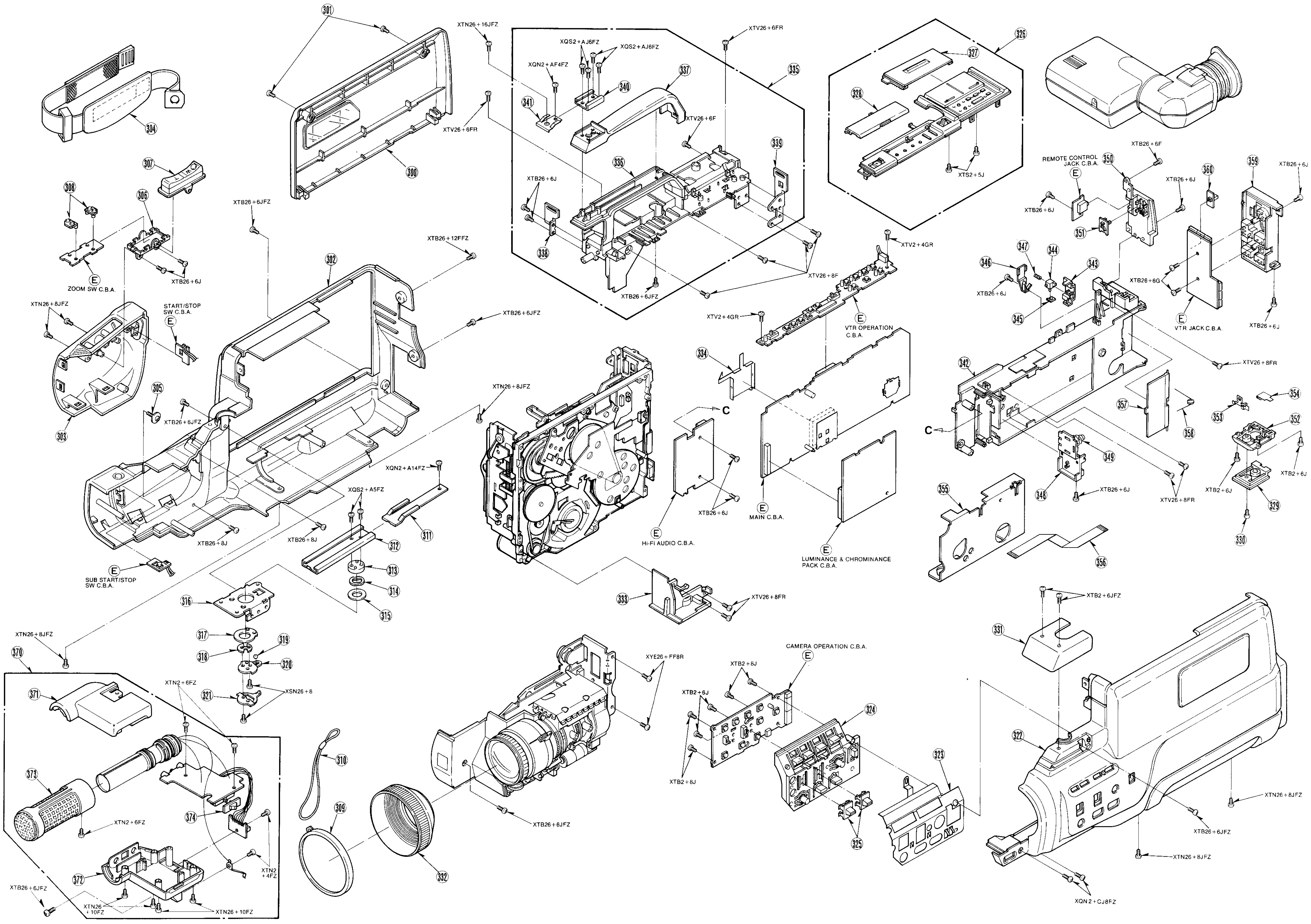
❷ MECHANISM SECTION (1)


100
101
102
XTN2+5G
XTN2+5G
B
122
103
XSS2+5
XTN2+5G
XUEV3VW
123
124
XWGV3D6G
XUEV3VW
125
126
XWGV3D6G
XTV2+6F
129
135
XUEV3VW
A
XTN2+14F
XTV2+5F
168
XUEV3VW
136
XUC2FP
XTV2+4F
XQN16+C8
104
128
B
E
TAKEUP PHOTO
C.B.A.
XTN2+5G
107
109
110
XUC2FP
XTN2+5G
XYE26+AF8R
105
XUC15FP
118
XUC15FP
XUC15FP
116
117
119
XYE26
+AF8R
114
121
XUC15FP
C
120
SUPPLY PHOTO
C.B.A.
E
XYN2+E6FN
112
115
XSN2+6
113
XYE26+AF8R
XYE2+BF6FZ
158
159
XYN2+C8
XTV26+6F
145
XTV2+4F
160
XWGV0006
163
XYN26+A6
141
144
149
150
169
XWGV2D4G
142
143
149
161
149
XUEV3VW
XWGV
3D6G
A
XWGV0006
XYE2
+BF9FZ
156
155
XUEV3VW
XTV2+5F
XTV2+5F
XTV2+5F
XWGV2D4G
147
XWGV3D6G
XUEV3VW
XWGV0006
164
170
137
171
138
139
171
140
151
E
MECHANISM
CONNECTION
C.B.A.
152
XWGV3D6G
153
167
165
XWGV3D6G
154
XTV2+6F
C
148
157
166
XWGV3D6G
XUEV3VW
XUEV3VW
XTV2+8F

❸ MECHANISM SECTION (2)


XUEV3VW
217
200
XQN16+A25
XYN2+F5
XTV2+8F
202
201
210
210
210
212
XUC15FP
211
213
XTV2+6F
203
E
G
204
205
XQN16+CF3
206
207
209
XUC12FP
208
230
XQN2+A2
294
214
214
214
215
216
218
218
218
B
A
C
233
XQN16+A3
234
240
230
235
241
XTV2+4FR
Hi-Fi AUDIO HEAD AMP C.B.A.
E
XTV2+4FR
XTV2+4FR
243
XTV2+8F
XTV2+8F
237
XTV2+6F
238
239
236
XTV2+6F
XTV2+6F
220
XTV2+8F
XTV2+6F
219
H
292
XWGV2Y4G
290
291
289
288
221
222
223
224
225
227
XTV2+5F
229
228
231
XTV2+6F
XTV2+6F
232
242
XTV2+5F
XTV2+5F
287
245
XWGV 0006
246
XWGV 2D4G
XUEV3VW
247
257
258
260
259
XSN2+D6FZ
263
261
262
264
F.E. HEAD C.B.A.
E
282
XTV2+6F
283
XYN2 +C5
XUEV3VW
XYN2+F4FZ
248
XTV2+6F
286
G
H
285
249
XUEV3VW
XWGV3D6G
XWGV3D6G
E
B
A
267
C
XWGV0006
265
266
XWGV 2D4G
268
269
270
271
XUEV3VW
272
273
XUEV3VW
274
XUC2FP
XWGV3D6G
275
XUEV3VW
XUEV3VW
XWGV3D9G
277
XWGV3D6G
276
278
XUEV3VW
279
280
XUEV3VW
250
251
252
XTV2+4F
XUC15FP
253
284
XUC15FP
254
255
XUEV3VW
256
XWGV3D6G

❹ CHASSIS & FRAME SECTION



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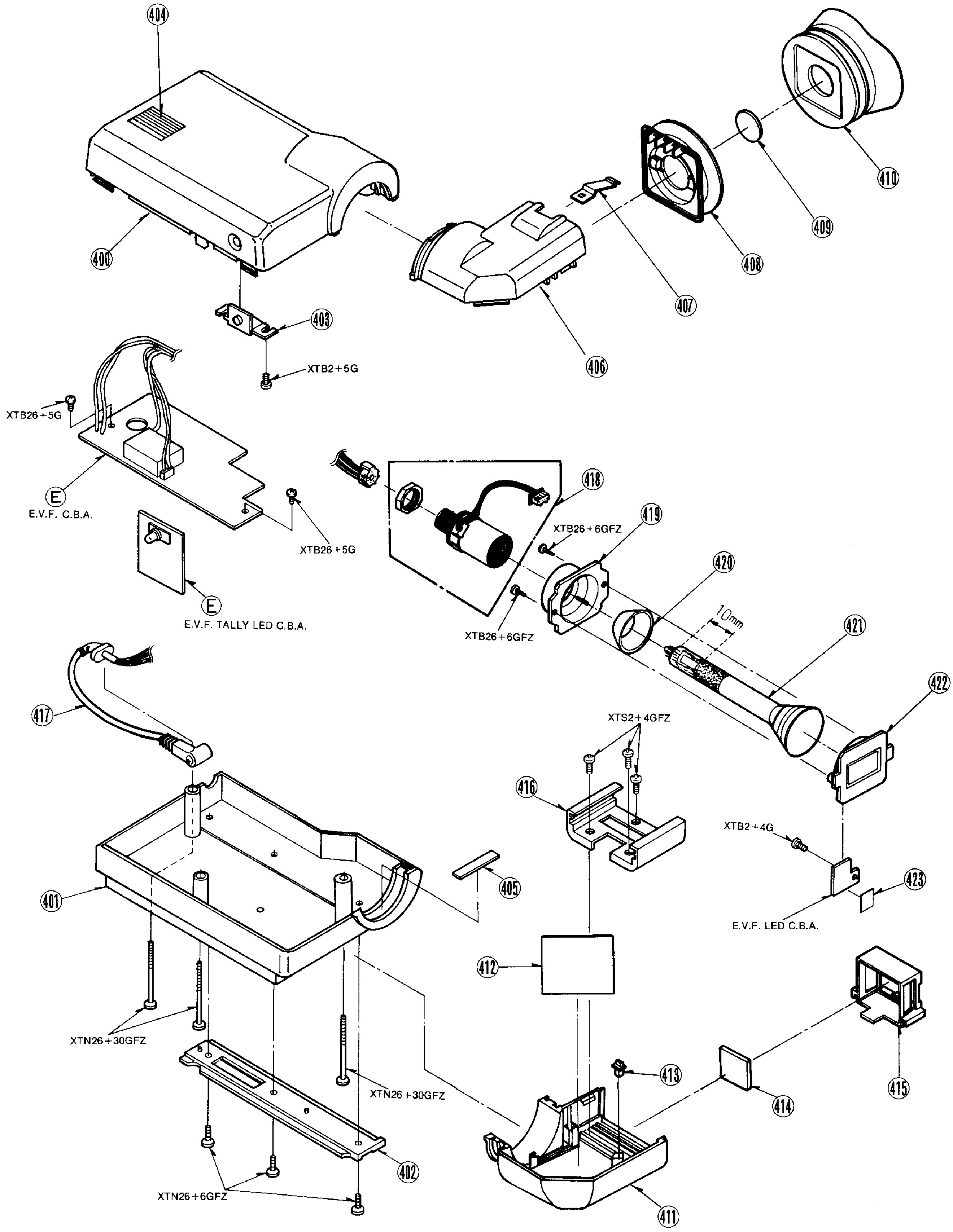
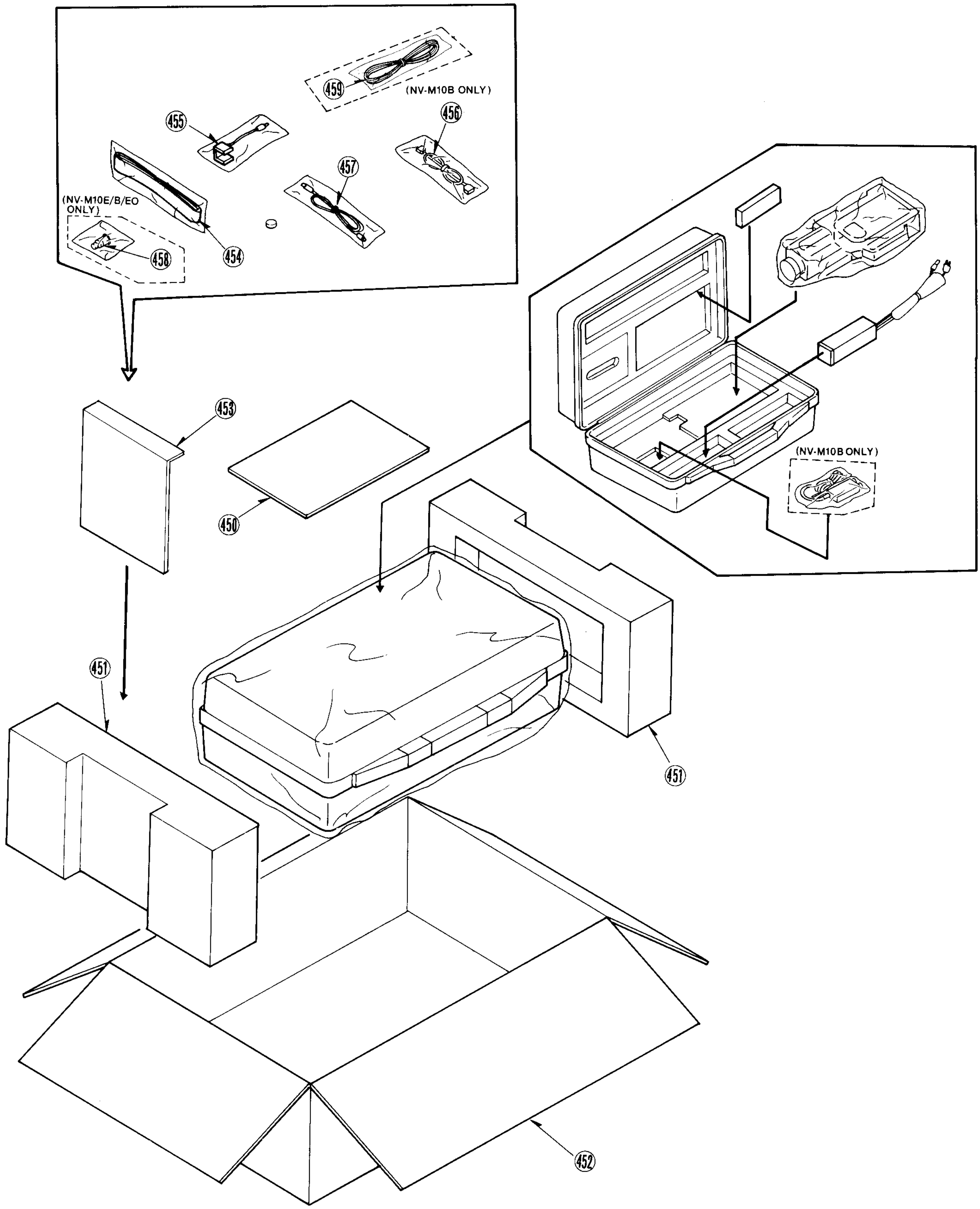
XTN26+16JFZ
XTV26+6FR
300
304
XQS2+AJ6FZ
XQS2+AJ6FZ
XQN2+AF4FZ
337
340
341
335
XTV26+6F
XTV26+6FR
339
336
XTB26+6J
338
XTB26+6JFZ
XTV26+8F
326
327
328
XTS2+5J
307
308
306
ZOOM SW C.B.A.
XTB26+6J
XTB26+6JFZ
XTB26+12FFZ
302
XTN26+8JFZ
START/STOP SW C.B.A.
XTB26+6JFZ
303
305
XTB26+6JFZ
XTB26+8J
XTB26+8J
SUB START/STOP SW C.B.A.
XQN2+A14FZ
XQS2+A5FZ
311
312
313
314
315
316
317
318
319
320
321
XSN26+8
XTN2+6FZ
XTN26+8JFZ
XTV2+4GR
XTV2+4GR
VTR OPERATION C.B.A.
334
C
XTB26+6J
HI-FI AUDIO C.B.A.
MAIN C.B.A.
LUMINANCE & CHROMINANCE PACK C.B.A.
333
XTV26+8FR
REMOTE CONTROL JACK C.B.A.
350
XTB26+6F
XTB26+6J
XTB26+6J
351
360
359
XTB26+6J
347
344
346
343
XTB26+6J
345
XTB26+6G
VTR JACK C.B.A.
XTB26+6J
XTV26+8FR
342
C
357
358
354
353
352
349
348
XTB26+6J
XTV26+8FR
XTB2+6J
XTB2+6J
329
330
355
356
370
371
373
374
372
XTN2+6FZ
XTN2+4FZ
XTB26+6JFZ
XTN26+10FZ
XTN26+10FZ
310
309
332
XYE26+FF8R
XTB26+6JFZ
CAMERA OPERATION C.B.A.
XTB2+6J
XTB2+6J
XTB2+8J
324
323
325
331
XTB2+6JFZ
322
XTN26+8JFZ
XTB26+6JFZ
XTN26+8JFZ
XQN2+CJ8FZ
E

❺ E.V.F. SECTION



404
400
403
XTB2+5G
406
407
408
409
410
XTB26+5G
E
E.V.F. C.B.A.
XTB26+5G
E
E.V.F. TALLY LED C.B.A.
418
419
XTB26+6GFZ
XTB26+6GFZ
420
10mm
421
422
417
XTS2+4GFZ
416
XTB2+4G
423
E.V.F. LED C.B.A.
401
405
412
XTN26+30GFZ
XTN26+30GFZ
413
414
415
402
XTN26+6GFZ
411

❸ ❻ PACKING PARTS & ACCESSORIES SECTION (NV-M10E/B/EO/A/EA)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(NV-M10B ONLY)
455
456
457
(NV-M10E/B/EO ONLY)
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(NV-M10B ONLY)
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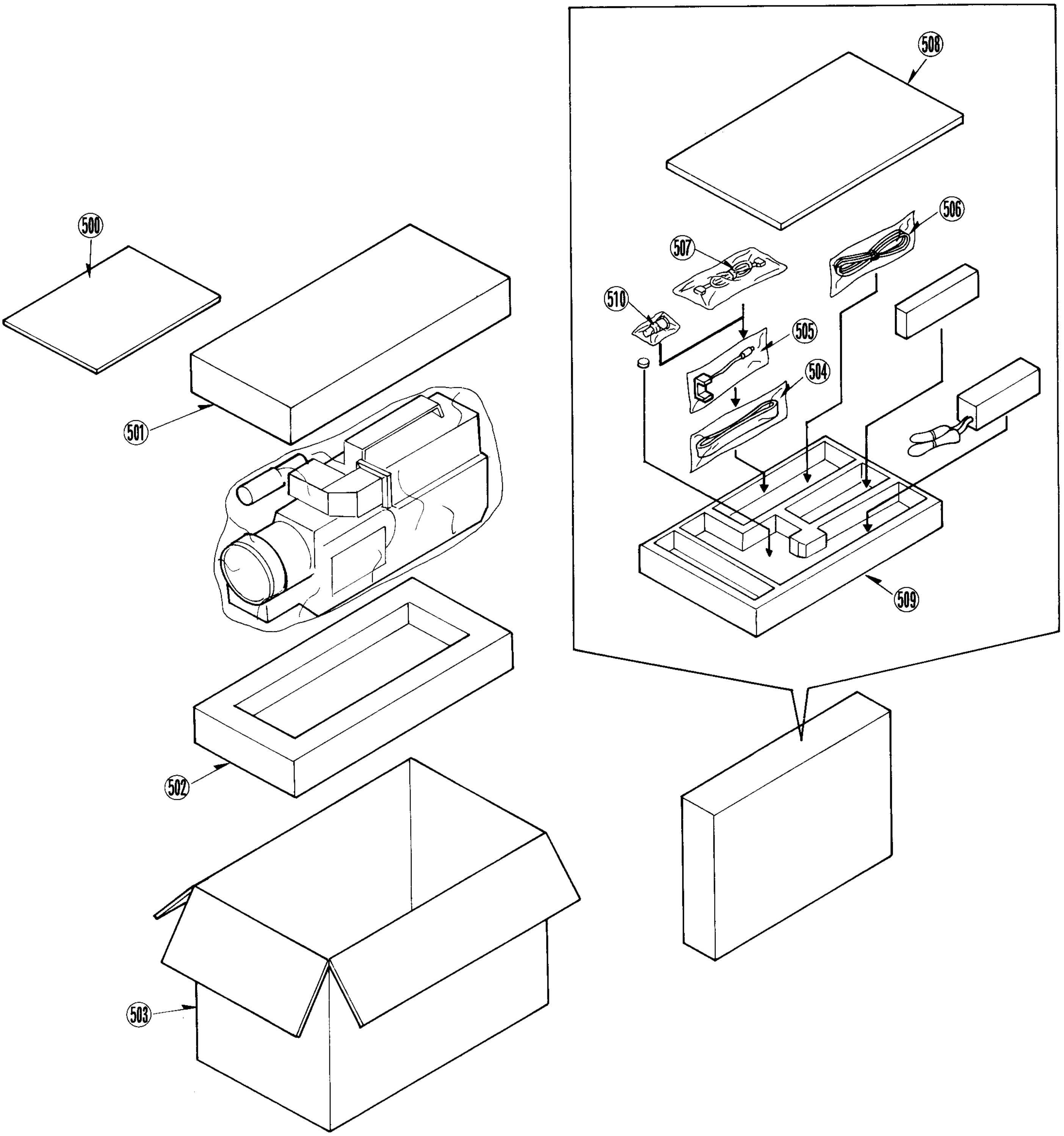
451
452

❼ PACKING PARTS & ACCESSORIES SECTION (NV-M10EG/EW)


508
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4-2. NV-M10E/EG/B/EO/EW/A/EA MECHANICAL REPLACEMENT PARTS LIST

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
1(1)		VMP2536	CAMERA ANGLE	1	
2(1)		VGQ1985	CAMERA ANGLE BOSS	1	
3(1)		VGQ1986	E.V.F. JACK PIECE	1	
4(1)		VYK2931	AWT CASE UNIT	1	
5(1)		VHD0398	CCD DRIVE FIXING SCREW	2	
6(1)		VMZ1549	AUTO FOCUS BARRIER	1	
7(1)		VSC3062	CCD DRIVE FRAME SHIELD	1	
			BARRIER		
8(1)		VWJ0410	PROCESS FLEXIBLE CORD	1	
9(1)		VWJ0412	IRIS FLEXIBLE CORD	1	
10(1)		VSC2976	SHIELD BARRIER	1	
11(1)		VJF0786	CCD DRIVE FRAME	1	
12(1)		VMD1438	CCD DRIVE C.B.A. FRAME	1	
13(1)		VMP2535	LENS ANGLE B	1	
14(1)		VDL0143	CRYSTAL FILTER	1	
15(1)		VEK4724	CCD UNIT	1	
16(1)		VMX1276	CCD CUSHION	1	
17(1)		VXQ0017	ACTUATER UNIT	1	
18(1)		VXW0064	LENS UNIT	1	
19(1)		VXW0066	LENS (1) UNIT	1	
20(1)		VDW0104	FOCUS RING	1	
21(1)		VDW0106	FOCUS RING RUBBER	1	
22(1)		VXL1954	IRIS UNIT	1	
23(1)		VEM0342	FOCUS MOTOR UNIT	1	
24(1)		VEM0343	ZOOM MOTOR UNIT	1	
25(1)		VXA3887	FOCUS DRIVE UNIT	1	
26(1)		VXQ0126	MASTER FLANGE UNIT	1	
27(1)		VMP2534	LENS ANGLE A	1	
28(1)		VMP1810	IR FIXING SPRING	1	
29(1)		VGQ1660	IR SPACER	1	
30(1)		VDL0170	IR FILTER	1	
100(2)		VMD0954	CASSETTE GUIDE (L)	1	
101(2)		VDG0610	MAIN ARM GEAR (A)	1	
102(2)		VMD0953	CASSETTE GUIDE (R)	1	
103(2)		VXA3865	CASSETTE HOLDER UNIT	1	
104(2)		VXP1139	DAMPER UNIT	1	
105(2)		VXL1984	LOCK LEVER UNIT	1	
107(2)		VXA3863	STAND (R) UNIT	1	
109(2)		VMB1329	HOLDER SPRING (L)	1	
110(2)		VMB1621	HOLDER SPRING (R)	1	
112(2)		VSH0026	LEAF SW	1	
113(2)		VMD0952	LEAF SW COVER (O)	1	
114(2)		VMB1330	LOCK BOARD SPRING	1	
115(2)		VXA3023	STAND (L) UNIT	1	
116(2)		VMB1453	LOCK LEVER (B) SPRING	1	
117(2)		VML1650	LOCK LEVER (B)	1	
118(2)		VDP1096	LOCK ROLLER (O)	1	
119(2)		VXL1648	LOCK BOARD UNIT	1	
120(2)		VMB1331	LOCK LEVER (A) SPRING	1	
121(2)		VML1649	LOCK LEVER (A)	1	
122(2)		VXA3867	CASSETTE UP (O) UNIT	1	
123(2)		VXR0128	SUPPLY REEL TABLE	1	
124(2)		VXP0900	SUPPLY CLUTCH UNIT	1	
125(2)		VXP0901	TAKE-UP CLUTCH UNIT	1	
126(2)		VXR0171	TAKE-UP REEL TABLE	1	
128(2)		VSQ0493	DEW DETECTOR UNIT	1	
129(2)		VGQ0888	CASSETTE OPENER	1	
135(2)		VXZ0246	SOFT BRAKE (T) UNIT	1	
136(2)		VXP0899	DRIVE GEAR ARM UNIT	1	
137(2)		VHD0288	CYLINDER UNIT SCREW	2	
138(2)		VEH0474	UPPER CYLINDER UNIT	1	
139(2)		VJR0347	RT TERMINAL	1	<!>
140(2)		VEG0770	CYLINDER UNIT	1	<!>
141(2)		VDV0167	LOADING BELT	1	
142(2)		VDG0370	INTERMEDIATE PULLEY GEAR	1	
143(2)		VMX0653	CUT WASHER	1	
144(2)		VDG0372	DRIVE GEAR (B)	1	
145(2)		VXS0076	EARTH HOLDER UNIT	1	
147(2)		VDG0371	DRIVE GEAR (A)	1	
148(2)		VDG0202	CAM GEAR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
149(2)		VMX0388	THRUST WASHER	3	
150(2)		VXL1654	MAIN ROD (K) UNIT	1	
151(2)		VDG0211	LOADING GEAR (C) (2)	1	
152(2)		VMB1324	LOADING GEAR (C) SPRING	1	
153(2)		VDG0210	LOADING GEAR (C) (1)	1	
154(2)		VMA7228	GUARD PLATE	1	
155(2)		VML1707	DRIVE ARMKICK LEVER	1	
156(2)		VMB1388	DRIVE ARMKICK LEVER SPRING	1	
157(2)		VXP0632	SECTOR GEAR UNIT	1	
158(2)		VMA6560	SAFETY TAB SW BASE	1	
159(2)		VSH0023	SAFETY TAB SW	1	
160(2)		VDG0207	DRIVE GEAR (C)	1	
161(2)		VSS0193	MODE SELECT SW	1	
163(2)		VEK3398	STATOR UNIT	1	
164(2)		VXP0634	ROTOR UNIT	1	
165(2)		VXP0897	MAIN PULLEY UNIT	1	
166(2)		VDV0155	CAPSTAN BELT	1	
167(2)		VMD0935	BELT COVER	1	
168(2)		VMA8096	STATOR ARM (2)	1	
169(2)		VXL1985	UPPER RT (S) ARM UNIT	1	
170(2)		VET0081	UPPER RT (R) UNIT	1	
171(2)		VHD0443	UPPER RT SCREW	2	
200(3)		VHD0282	P2 ADJUST PLATE SCREW	1	
201(3)		VMA6542	P2 ADJUST PLATE	1	
202(3)		VMD0701	SUPPLY POST STOPPER	1	
203(3)		VMD1451	V STOPPER BASE	1	
204(3)		VXP0841	SUPPLY ROLLER POST UNIT	1	
205(3)		VGQ0842	P2 CAP	1	
206(3)		VMD0769	TAPE PROTECTOR	1	
207(3)		VXA2221	SUPPLY SHAFT HOLDER(1)UNIT	1	
208(3)		VXA2256	SUPPLY SHAFT HOLDER ANGLE	1	
			UNIT	1	
209(3)		VMM0144	CONNECTION ROD	1	
210(3)		VMX1282	RING GUIDE SLEEVE UNIT	3	
211(3)		VXA2231	CONNECTION TIE UNIT	1	
212(3)		VMB1319	LOADING SPRING	1	
213(3)		VXA2253	LOADING RING (S) (1) UNIT	1	
214(3)		VDP1160	RING GUIDE ROLLER	3	
215(3)		VMB1319	LOADING SPRING	1	
216(3)		VXA3576	LOADING RING (T) (1) UNIT	1	
217(3)		VMC0250	PRESSER SPRING	1	
218(3)		VMX1279	RING GUIDE SLEEVE	3	
219(3)		VMD1155	LOADING GUIDE (S) (1)	1	
220(3)		VMD1128	LOADING GUIDE (S) (2)	1	
221(3)		VMX1088	SUPPLY UPPER LIMITER	1	
222(3)		VMS2888	P1 POST SLEEVE (B)	1	
223(3)		VMX1581	P1 COLLAR	1	
224(3)		VDP1265	P1 ROLLER	1	
225(3)		VMA6547	P1 LIMITER PLATE	1	
227(3)		VXA3112	P1 BASE (1) UNIT	1	
228(3)		VXD0098	THRUST SPACER	1	
229(3)		VHD0204	THRUST SCREW NUT	1	
230(3)		VHD0368	ROLLER POST SCREW	2	
231(3)		VMX0775	DUST SEAL	2	
232(3)		VXD0108	CAPSTAN HOUSING UNIT	1	
233(3)		VXP0927	TAKE-UP ROLLER POST UNIT	1	
234(3)		VMA6546	TAKE-UP SHAFT HOLDER ANGLE	1	
235(3)		VXA3116	TAKE-UP SHAFT HOLDER (A)	1	
			UNIT		
236(3)		VMD1165	TAKE-UP LOADING BASE	1	
237(3)		VMC0352	SHAFT HOLDER PRESSURE	1	
			SPRING		
238(3)		VMA7226	SHAFT HOLDER PLATE ANGLE	1	
239(3)		LN59NV	LED	1	
240(3)		VHD0367	TAKE-UP SHAFT ADJ. SCREW	1	
241(3)		VSC2604	HEAD AMP SHIELD PLATE	1	
242(3)		VEM0288	LOADING MOTOR UNIT	1	<!>
243(3)		VMP2221	HEAD AMP PLATE	1	
245(3)		VMB1747	TENSION SPRING	1	
246(3)		VXL1262	TENSION ARM UNIT	1	
247(3)		VXZ0245	TENSION BAND UNIT	1	
248(3)		VML2065	BAND RELEASE ARM	1	
249(3)		VML1631	TENSION KICK LEVER	1	
250(3)		VML2064	EJECT LEVER (A)	1	
251(3)		VXA3020	SUPPORTER UNIT	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
252(3)		VMB1405	BRAKE SPRING	1	
253(3)		VXZ0207	BRAKE (R) UNIT	1	
254(3)		VXZ0206	BRAKE (L) UNIT	1	
255(3)		VXA2392	BRAKE PLATE (1) UNIT	1	
256(3)		VML2073	EJECT LEVER (B)	1	
257(3)		VED0131	A/C HEAD UNIT	1	
258(3)		VHD0275	A/C HEAD ADJUST SCREW	1	
259(3)		VMB1321	A/C HEAD ADJUST SPRING	1	
260(3)		VHD0381	A/C HEAD TILT ADJUST SCREW	1	
261(3)		VXL1696	A/C HEAD ARM UNIT	1	
262(3)		VJF0760	A/C HEAD BINDER	1	
263(3)		VHN0077	A/C HEAD ARM NUT	1	
264(3)		VMB1320	A/C HEAD SPRING	1	
265(3)		VDG0208	LOADING GEAR (A)	1	
266(3)		VDG0461	LOADING GEAR (B)	1	
267(3)		VHN0072	ADJUST NUT	1	
268(3)		VHN0047	M2 NYLON NUT	2	
269(3)		VMS2693	P4 POST SLEEVE	1	
270(3)		VXJ0057	P5 POST SLEEVE	1	
271(3)		VMB1322	P4,P5 SPRING	2	
272(3)		VML2067	PINCH LEVER	1	
273(3)		VMB2071	PINCH LEVER SPRING	1	
274(3)		VXL1652	PINCH ROLLER ARM (1) UNIT	1	
275(3)		VXL1650	PINCH ARM UNIT	1	
276(3)		VMB1326	PINCH ARM SPRING	1	
277(3)		VXL1264	SOFT BRAKE LEVER (S) UNIT	1	
278(3)		VMB1314	SOFT BRAKE SPRING (S)	1	
279(3)		VMB1771	REW ARM SPRING	1	
280(3)		VXL1649	FF/REW ARM UNIT	1	
282(3)		VBS0021	FE HEAD	1	
283(3)		VMD1129	FE HEAD BASE	1	
284(3)		VMB1447	SUPPORTER SPRING	1	
285(3)		VXA3579	SLIDE BASE (O) UNIT	1	
286(3)		VMB1965	SLIDE SPRING	1	
287(3)		VML2285	IMPEDANCE LEVER	1	
288(3)		VHN0109	PUSH NUT	1	
289(3)		VMB1964	IMPEDANCE DRIVE SPRING	1	
290(3)		VXL1879	IMPEDANCE ARM (1) UNIT	1	
291(3)		VDP1285	IMPEDANCE ROLLER	1	
292(3)		VMX1088	SUPPLY UPPER LIMITER	1	
294(3)		VXA2220	SUPPLY SHAFT HOLDER UNIT	1	
300(4)		VYP2946	CASSETTE COVER UNIT	1	
301(4)		VHD0371	CASSETTE COVER SCREW	2	
302(4)		VYK3073	SIDE CASE (L) 1 UNIT	1	
303(4)		VYK3074	GRIP CASE 1 UNIT	1	
304(4)		VYC0384	GRIP BELT UNIT	1	
305(4)		VHD0386	GRIP BELT SCREW	1	
306(4)		VGQ1790	ZOOM BUTTON PIECE	1	
307(4)		VGU5007	ZOOM BUTTON	1	
308(4)		VMG0462	SWITCH RUBBER PIECE	2	
309(4)		VKF0950	HOOD CAP	1	
310(4)		VGQ1350	HOOD STRAP	1	
311(4)		VMC0257	E.V.F. SHOE SPRING	1	
312(4)		VMP1073	E.V.F. SHOE	1	
313(4)		VMP1072	E.V.F. ROTATION STAND	1	
314(4)		WW-12	WAVING WASHER	1	
315(4)		VMX1123	E.V.F. ROTATION SPACER	1	
316(4)		VMP2532	E.V.F. ANGLE	1	
317(4)		VGQ1213	E.V.F. ROTATION PIECE (A)	1	
318(4)		VGQ1214	E.V.F. ROTATION PIECE (B)	1	
319(4)		VDB0876	E.V.F. CLICK BALL	1	
320(4)		VMC0576	E.V.F. CLICK SPRING (A)	1	
321(4)		VMC0278	E.V.F. CLICK SPRING (B)	1	
322(4)		VYK3072	SIDE CASE (R) 1 UNIT	1	
323(4)		VSC3023	CAMERA EARTH PLATE	1	
324(4)		VGP2433	CAMERA OPERATION PANEL	1	
325(4)		VGU5008	SLIDE KNOB	2	
326(4)		VXU0959	OPERATION PANEL UNIT	1	
327(4)		VKF1388	CURSOR	1	
328(4)		VKF1387	RESET/MEMORY LID	1	
329(4)		VKF1385	BATTERY LID	1	
330(4)		VHD0437	BATTERY LID SCREW	1	
331(4)		VKM2040	E.V.F. BASE CASE	1	
332(4)		VDW0073	LENS HOOD	1	
333(4)		VYQ0096	TRIPOD FIXING BRACKET UNIT	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
334(4)		VSC3014	SHIELD CASE (LID)	1	
335(4)		VXK0965	TOP FRAME UNIT	1	
336(4)		VMD1471	TOP FRAME	1	
337(4)		VKM2041	HANDLE TOP COVER	1	
338(4)		VMP2533	SHOULDER BELT ANGLE (FRONT)	1	
339(4)		VMP2587	SHOULDER BELT ANGLE (REAR)	1	
340(4)		VMP1079	SHOE	1	
341(4)		VMC0575	SHOE SPRING	1	
342(4)		VYK3075	BATTERY CASE 1 UNIT	1	
343(4)		VGU3441	BATTERY EJECT BUTTON	1	
344(4)		VGQ1122	BATTERY LOCK PIECE	1	
345(4)		VGQ1181	BATTERY STOPPER PIECE	1	
346(4)		VMC0238	BATTERY STOPPER FIXING	1	
			ANGLE		
347(4)		VMB1610	BATTERY STOPPER SPRING	1	
348(4)		VGQ1129	BATTERY CATCHER	1	
349(4)		VMB1614	BATTERY EJECT SPRING	1	
350(4)		VYK3076	JACK PLATE 1 UNIT	1	
351(4)		VGU5009	JACK KNOB	1	
352(4)		VYK2503	BATTERY HOLDER UNIT	1	
353(4)		VJR0363	ELECTRODE (-)	1	
354(4)		VMC0326	ELECTRODE (+)	1	
355(4)		VGQ2027	BATTERY CASE COVER	1	
356(4)		VWJ0384	FLEXIBLE CORD	1	
357(4)		VKF0831	BATTERY DOOR	1	
358(4)		VMC0237	BATTERY DOOR SPRING	1	
359(4)		VEJ0990	VTR JACK PLATE UNIT	1	NV-M10 EO/EW/A/EA
359(4)		VEJ0991	VTR JACK PLATE UNIT	1	NV-M10 E/B/EG
360(4)		VGU3435	AUDIO SELECT KNOB	1	
370(4)		VEK4655	MIC UNIT	1	
371(4)		VKM2274	MIC TOP COVER	1	
372(4)		VKM2275	MIC BOTTOM COVER	1	
373(4)		VYQ0429	MIC HOOD UNIT	1	
374(4)		VGU5168	MIC SELECT KNOB	1	
400(5)		VYK2912	E.V.F. TOP COVER UNIT	1	
401(5)		VKM2137	E.V.F. BOTTOM COVER	1	
402(5)		VGQ1826	E.V.F. HOOD	1	
403(5)		VGL0393	LED PANEL LIGHT	1	
404(5)		VGF0338	VOLUME CAP	1	
405(5)		VMC0489	E.V.F. ROTARION SPRING	1	
406(5)		VKM2140	CRT TOP CASE	1	
407(5)		VMC0316	EYE CAP HOLDER SPRING	1	
408(5)		VKF1255	EYE CAP HOLDER	1	
409(5)		VDL0140	EYE CAP LENS	1	
410(5)		VMG0411	EYE CAP	1	
411(5)		VKM2141	CRT BOTTOM COVER	1	
412(5)		VDL0141	MIRROR	1	
413(5)		VGU3895	EYESIGHT CORRECTION KNOB	1	
414(5)		VDL0139	EYESIGHT CORRECTION LENS	1	
415(5)		VKF0947	LENS HOLDER	1	
416(5)		VKF1278	LENS HOLDER GUIDE	1	
417(5)		VEK3604	E.V.F CABLE UNIT	1	
418(5)		ELY07V552A	DEFLECTION YOKE	1	
419(5)		VJF0501	CRT HOLDER	1	
420(5)		VMX1004	CRT PROTECTOR RUBBER	1	
421(5)		M02JVV48WB	CRT	1	
422(5)		VJF0729	CRT MASKING	1	
423(5)		VGL0416	LED SHEET	1	
450(6)		VQT3427	OPERATING INSTRUCTIONS	1	<!> NV-M10A/EA
			(ENGLISH)		
450(6)		VQT3429	OPERATING INSTRUCTIONS	1	<!> NV-M10B
			(ENGLISH)		
450(6)		VQT3430	OPERATING INSTRUCTIONS	1	<!> NV-M10E/EG
			(ENGLISH/FRENCH/GERMAN)		
450(6)		VQT3431	OPERATING INSTRUCTIONS	1	<!> NV-M10EO
			(ENGLISH/FRENCH/GERMAN)		
450(6)		VQT3432	OPERATING INSTRUCTIONS	1	<!> NV-M10EO
			(SWEDISH/FINNISH)		
450(6)		VQT3433	OPERATING INSTRUCTIONS	1	<!> NV-M10EO
			(ITALIAN/SPANISH)		
450(6)		VQT3434	OPERATING INSTRUCTIONS	1	<!> NV-M10E
			(ITALIAN/SPANISH/DUTCH)		
450(6)		VQT3435	OPERATING INSTRUCTIONS	1	<!> NV-M10E
			(SWEDISH/FINNISH/DANISH)		
451(6)		VPN2612	CUSHION	2	NV-M10E/B/EO/A/EA

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
452(6)		VPG5010	PACKING	1	NV-M10B
452(6)		VPG5011	PACKING	1	NV-M10EA
452(6)		VPG5012	PACKING	1	NV-M10A
452(6)		VPG5013	PACKING	1	NV-M10EO
452(6)		VPG5014	PACKING	1	NV-M10E
453(6)		VPK1220	ACCESSORY PAD	1	NV-M10B
453(6)		VPK1223	ACCESSORY PAD	1	NV-M10A
453(6)		VPK1224	ACCESSORY PAD	1	NV-M10EA
453(6)		VPK1222	ACCESSORY PAD	1	NV-M10EO
453(6)		VPK1221	ACCESSORY PAD	1	NV-M10E
454(6)		VFC0130	SHOULDER STRAP	1	NV-M10E/B/EO/A/EA
455(6)		VJA0180	BATTERY PACK CHARGING	1	NV-M10E/B/EO/A/EA
			CONNECTOR		
456(6)		VJA0573	3P DC INPUT CORD	1	NV-M10E/B/EO/A/EA
457(6)		VFA0028	AV OUTPUT CORD	1	NV-M10E/B/EO/A/EA
458(6)		VFA0097	BNC/PHONO ADAPTOR PLUG	1	NV-M10E/B/EO
459(6)		VJA0376	RF CORD	1	NV-M10B
500(7)		VQT3430	OPERATING INSTRUCTIONS	1	NV-M10EG
500(7)		VQT3431	OPERATING INSTRUCTIONS	1	NV-M10EW
500(7)		VQT3433	OPERATING INSTRUCTIONS	1	NV-M10EW
501(7)		VPN2614	CUSHION (UPPER)	1	NV-M10EG/EW
502(7)		VPN2615	CUSHION (LOWER)	1	NV-M10EG/EW
503(7)		VPG5015	PACKING	1	NV-M10EG
503(7)		VPG5016	PACKING	1	NV-M10EW
504(7)		VFC0130	SHOULDER STRAP	1	NV-M10EG/EW
505(7)		VJA0180	RECHARGEABLE BATTERY	1	NV-M10EG/EW
			CATCHER		
506(7)		VFA0028	AUDIO/VIDEO CORD	1	NV-M10EG/EW
507(7)		VJA0573	3P DC JACK CORD	1	NV-M10EG/EW
508(7)		VPN2617	PAD	1	NV-M10EG/EW
509(7)		VPN2616	ACCESSORY BOX	1	NV-M10EG/EW
510(7)		VFA0097	PHONO/BNC ADAPTOR PLUG	1	NV-M10EG/EW
			FIXTURES & TOOLS		
		VFK0430	FLEXIBLE EXTENSION CABLE	1	
		VFK0380	EXTENTION CABLE	2	
		VFK0613	HOLDER SPACER (2PCS)	1	
		VFK0431	CAMERA HOLDER ARM	1	
		VFK0382	CAMERA HOLDER	1	
		VFJ8125H3F	VHS-ALLGNMENT TAPE (PAL)	1	
		VFK0144	RETAINING RING REMOVER	1	
			(3mm)		
		VFK0191	POST ADJUSTMENT PLATE	1	
		VFK0190	REEL TABLE HEIGHT GAUGE	1	
		VFK0189	H-POSITION ADJ. -FIXTURE	1	
		VFK0137	POST ADJUSTMENT SCREWDRIVER	1	
		VFK66	FAN TYPE TENSION GAUGE	1	
		VFK0326	HEX WRENCH SET	1	
		VFK0343	CHECK LIGHT	1	
		VFK27	HEAD CLEANING STICK	1	
		MOR265	MORLYTONE GREASE	1	
		VFK0283	SERVICE ALIGNMENT TOOL KIT	1	
		VFK0136	FINE ADJUSTMENT SCREWDRIVER	1	
		VFK0134	ADAPTOR FOR VFK0133	1	
		VFK0133	DIAL TORQUE GAUGE	1	

4-3. NV-M10E/EG/B/EO/EW/A/EA ELECTRICAL REPLACEMENT PARTS LIST

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			----- CAMERA SECTION -----		
		VEP23095A	PROCESS C.B.A.	1	(NLA)
		VEP27044A	AUTO FOCUS C.B.A.	1	(NLA)
					INCLUDING THE
					AUTO FOCUS SUB C.B.A.
					(VEP27052A).
		VEP27052A	AUTO FOCUS SUB C.B.A.	1	(NLA)
					INCLUDED IN
					AUTO FOCUS C.B.A.
					(VEP27044A)
		VEP22085A	CCD DRIVE C.B.A.	1	(NLA)
					NV-M10E/B/EO/EW/A/EA
		VEP22085C	CCD DRIVE C.B.A.	1	(NLA) NV-M10EG
		VEP26055A	AWT C.B.A.	1	(NLA)
		VEP00P37A	FOCUS & ZOOM POSITION	1	(NLA)
			DETECTOR C.B.A.		
			----- E.V.F. SECTION -----		
		VEP27033G	E.V.F. C.B.A.	1	(NLA)
		VEP27042A	E.V.F. LED C.B.A.	1	(NLA)
		VEP27043A	E.V.F. TALLEY LED C.B.A.	1	(NLA)
			------ VTR SECTION ------		
		VEP06612A	MAIN C.B.A.	1	(NLA)
		VEP03676C	LUMINANCE & CHROMINANCE	1	(NLA)
			C.B.A.		
		VEP04280A	Hi-Fi AUDIO C.B.A.	1	(NLA)
		VEP05133B	Hi-Fi HEAD AMP C.B.A.	1	(NLA)
		VEP06613A	VTR OPERATION C.B.A.	1	(NLA)
		VEP06614A	CAMERA OPERATION C.B.A.	1	(NLA)
		VEP04281A	VTR JACK C.B.A.	1	(NLA)

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VEK4730	ZOOM SW,START/STOP SW,	1	(NLA)
			SUB START/STOP SW C.B.A.		
		VEK4644	REMOTE CONTROL JACK C.B.A.	1	(NLA)
		VEK4643	E.V.F. CONNECTOR C.B.A.	1	(NLA)
		VEP00H73B	FE HEAD C.B.A.	1	(NLA)
		VES0413	MECHANISM CONNECTION C.B.A.	1	(NLA)
		VEK3414	TAKE-UP PHOTO C.B.A.	1	(NLA)
		VEK3415	SUPPLY PHOTO C.B.A.	1	(NLA)
	■	VEP23095A	PROCESS C.B.A.		(NLA)
B301		VJS1948	CONNECTOR	1	
B305		VJS1948	CONNECTOR	1	
			CAPACITORS		
C301		ECUM1H151JCV	C.CAPACITOR CH 50V 150P	1	
C303,04		ECST1CY105Z	T.CAPACITOR 16V 1U	2	
C305		ECUM1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C306		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C307		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C308		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C309		ECUM1H680JCV	C.CAPACITOR CH 50V 68P	1	
C310		ECUM1H220JCV	C.CAPACITOR CH 50V 22P	1	
C311		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C312		ECUM1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C313		ECST1CY105Z	T.CAPACITOR 16V 1U	1	
C314		ECSF1CE106	T.CAPACITOR 16V 10U	1	
C315		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C316,17		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	2	
C318,19		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C320,21		ECUM1E473ZFN	C.CAPACITOR CH 25V 0.047U	2	
C322		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C323		ECSF0JE226	T.CAPACITOR 6.3V 22U	1	
C324		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C325		ECEV1HA2R2	E.CAPACITOR 50V 2.2U	1	
C326		ECEA1CKK100	E.CAPACITOR 16V 10U	1	
C327		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C328,29		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C330		ECSF1AE226	T.CAPACITOR 10V 22U	1	
C331		ECUM1E473ZFN	C.CAPACITOR CH 25V 0.047U	1	
C332		ECEV1HA010	E.CAPACITOR 50V 1U	1	
C333		ECEV1HA3R3	E.CAPACITOR 50V 3.3U	1	
C334		ECUM1H101JCV	C.CAPACITOR CH 50V 100P	1	
C335		ECUM1E473ZFN	C.CAPACITOR CH 25V 0.047U	1	
C336,37		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C338,39		ECUM1E473ZFN	C.CAPACITOR CH 25V 0.047U	2	
C340,41		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C342		ECUM1E473ZFN	C.CAPACITOR CH 25V 0.047U	1	
C343		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C344		ECUM1H102KBV	C.CAPACITOR CH 50V 1000P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C345		ECEV1CAN4R7	E.CAPACITOR 16V 4.7U	1	
C346		ECST1AB475Z	T.CAPACITOR 35V 4.7U	1	
C348		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C349		ECUM1H221JCV	C.CAPACITOR CH 50V 220P	1	
C350		ECEA1CKK100	E.CAPACITOR 16V 10U	1	
C351		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C353		ECUM1H330JCV	C.CAPACITOR CH 50V 33P	1	
C354		ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	1	
C355,56		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C357		ECEA1HKK010	E.CAPACITOR 50V 1U	1	
C358		ECSF1AE226	T.CAPACITOR 10V 22U	1	
C360		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C361		ECEA1CKS330	E.CAPACITOR 16V 33U	1	
C362		ECUM1H270JCV	C.CAPACITOR CH 50V 27P	1	
C363,64		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C365		ECSF0JE336	T.CAPACITOR 6.3V 33U	1	
C366		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C368		ECUM1H271JCV	C.CAPACITOR CH 50V 270P	1	
C369		ECSF1AE106	T.CAPACITOR 10V 10U	1	
C371		ECST1CY105Z	T.CAPACITOR 16V 1U	1	
C372		ECEV0JA470	E.CAPACITOR 6.3V 47U	1	
C373		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C374-76		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	3	
C377		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C378		ECUM1H220JCV	C.CAPACITOR CH 50V 22P	1	
C380		ECUM1H330JCV	C.CAPACITOR CH 50V 33P	1	
C382		ECUM1H220JCV	C.CAPACITOR CH 50V 22P	1	
C384		ECEA1EKS4R7	E.CAPACITOR 25V 4.7U	1	
C385		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C386		ECEV1CA100	E.CAPACITOR 16V 10U	1	
C387-89		ECUM1H560JCV	C.CAPACITOR CH 50V 56P	3	
C393		ECUM1H820JCV	C.CAPACITOR CH 50V 82P	1	
C395,96		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	2	
C398-00		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	3	
C401,02		ECUM1H151JCV	C.CAPACITOR CH 50V 150P	2	
C416		ECEA0GKS221	E.CAPACITOR 4V 220U	1	
C501		ECEV1AAN100	E.CAPACITOR 10V 10U	1	
C502,03		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C504		ECEV1AAN100	E.CAPACITOR 10V 10U	1	
C505,06		ECUM1E473ZFN	C.CAPACITOR CH 25V 0.047U	2	
C508		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
D301		MA141A	DIODE	1	
D305		MA141A	DIODE	1	
D306		MA141WK	DIODE	1	
D307		MA728	DIODE	1	
D308		MA3047M	DIODE	1	
D309,10		MA110	DIODE	2	
D501		MA141WA	DIODE	1	
D502		MA728	DIODE	1	
D503		MA141A	DIODE	1	
FL301		ELB4D009	FILTER	1	
FL302		VLF0664	FILTER	1	
FL303		ELB4B003	FILTER	1	
FL304		ELB4C011	FILTER	1	
FL305		VLF0798	FILTER	1	
FL307		ELB4D010	FILTER	1	
FL308		ELB4B030	FILTER	1	
FP306		VJS2137	CONNECTOR	1	
FP310		VJS2113	CONNECTOR (FEMALE)	1	
IC302		MN3819S	IC	1	
IC303		MN3820S	IC	1	
IC304		AN2154FAP	IC	1	
IC308,09		LM2904M	IC	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
IC310		AN2254FAP	IC	1	
IC311		MN73512XWA	IC	1	
IC312		VCR0250A	IC	1	
IC501		RZ4052BM	IC	1	
IC502		LM2902M	IC	1	
IC503		LM2904M	IC	1	
IC504,05		LM2902M	IC	2	
IC506		RC4558M	IC	1	
L301		VLQ0163K150	COIL 15UH	1	
L302		VLQ0319F150	COIL 15UH	1	
L303		VLQ0163K101	COIL 100UH	1	
L304-06		VLQ0163K150	COIL 15UH	3	
L307		VLQ0163K330	COIL 33UH	1	
L308,09		VLQ0163K150	COIL 15UH	2	
L310		VLQ0291	COIL	1	
L311		VLQ0163K150	COIL 15UH	1	
L312		VLQ0163K101	COIL 100UH	1	
L313		VLQ0163K330	COIL 33UH	1	
L316		VLQ0163K330	COIL 33UH	1	
P302		VJP1609T	CONNECTOR(MALE)	1	
P309		VJP2261	CONNECTOR(MALE)	1	
Q301		2SD1819	TRANSISTOR	1	
Q302		2SC3931	TRANSISTOR	1	
Q303		2SB1218	TRANSISTOR	1	
Q304		2SA1532	TRANSISTOR	1	
Q305		XN4601	TRANSISTOR-RESISTOR	1	
Q306		XN4401	TRANSISTOR-RESISTOR	1	
Q308		XN4601	TRANSISTOR-RESISTOR	1	
Q310		2SB1218	TRANSISTOR	1	
Q312		2SD1819	TRANSISTOR	1	
Q313		2SC3931	TRANSISTOR	1	
Q314		2SD1819	TRANSISTOR	1	
Q315		XN4401	TRANSISTOR-RESISTOR	1	
Q317		2SD1819	TRANSISTOR	1	
Q320		XN4401	TRANSISTOR-RESISTOR	1	
Q322		XN4608	TRANSISTOR-RESISTOR	1	
Q324		2SA1532	TRANSISTOR	1	
Q328		XN4501	TRANSISTOR-RESISTOR	1	
Q505		XN4501	TRANSISTOR-RESISTOR	1	
Q508-10		XN4601	TRANSISTOR-RESISTOR	3	
			RESISTORS		
R301		ERJ3GEYJ102	M.RESISTOR CH1/20W 1K	1	
R302		ERJ3GEYJ271	M.RESISTOR CH1/20W 270	1	
R303		ERJ3GEYJ391	M.RESISTOR CH1/20W 390	1	
R304		ERJ3GEYJ102	M.RESISTOR CH1/20W 1K	1	
R305		ERJ3GEYJ471	M.RESISTOR CH1/20W 470	1	
R306		ERJ3GEYJ222	M.RESISTOR CH1/20W 2.2K	1	
R307		ERJ3GEYJ102	M.RESISTOR CH1/20W 1K	1	
R308		ERJ3GEYJ182	M.RESISTOR CH1/20W 1.8K	1	
R309		ERJ3GEYJ561	M.RESISTOR CH1/20W 560	1	
R310		ERJ3GEYJ101	M.RESISTOR CH1/20W 100	1	
R311,12		ERJ3GEYJ332	M.RESISTOR CH1/20W 3.3K	2	
R313		ERJ3GEYJ472	M.RESISTOR CH1/20W 4.7K	1	
R314		ERJ3GEYJ102	M.RESISTOR CH1/20W 1K	1	
R315		ERJ3GEYJ182	M.RESISTOR CH1/20W 1.8K	1	
R317		ERJ3GEYJ561	M.RESISTOR CH1/20W 560	1	
R318		ERJ3GEYJ392	M.RESISTOR CH1/20W 3.9K	1	
R319		ERJ3GEYJ102	M.RESISTOR CH1/20W 1K	1	
R321		ERJ3GEYJ222	M.RESISTOR CH1/20W 2.2K	1	
R322		ERJ3GEYJ102	M.RESISTOR CH1/20W 1K	1	
R323		ERJ3GEYJ472	M.RESISTOR CH1/20W 4.7K	1	
R324		ERJ3GEYJ222	M.RESISTOR CH1/20W 2.2K	1	
R325,26		ERJ3GEYJ472	M.RESISTOR CH1/20W 4.7K	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R327		ERJ3GEYJ102	M.RESISTOR CH1/20W 1K	1	
R328		ERJ3GEYJ472	M.RESISTOR CH1/20W 4.7K	1	
R329		ERJ3GEYJ183	M.RESISTOR CH1/20W 18K	1	
R330		ERJ3GEYJ332	M.RESISTOR CH1/20W 3.3K	1	
R331		ERJ3GEYJ562	M.RESISTOR CH1/20W 5.6K	1	
R332		ERJ3GEYJ472	M.RESISTOR CH1/20W 4.7K	1	
R333		ERJ3GEYJ822	M.RESISTOR CH1/20W 8.2K	1	
R334		ERJ3GEYJ821	M.RESISTOR CH1/20W 820	1	
R336		ERJ3GEYJ104	M.RESISTOR CH1/20W 100K	1	
R337		ERJ3GEYJ154	M.RESISTOR CH1/20W 150K	1	
R338		ERJ3GEYJ102	M.RESISTOR CH1/20W 1K	1	
R339		ERJ3GEYJ393	M.RESISTOR CH1/20W 39K	1	
R340		ERJ3GEYJ183	M.RESISTOR CH1/20W 18K	1	
R341		ERJ3GEYJ153	M.RESISTOR CH1/20W 15K	1	
R342		ERJ3GEYJ473	M.RESISTOR CH1/20W 47K	1	
R343		ERJ3GEYJ273	M.RESISTOR CH1/20W 27K	1	
R344		ERJ3GEYJ183	M.RESISTOR CH1/20W 18K	1	
R345		ERJ3GEYJ333	M.RESISTOR CH1/20W 33K	1	
R348		ERJ3GEYJ473	M.RESISTOR CH1/20W 47K	1	
R349		ERJ3GEYJ103	M.RESISTOR CH1/20W 10K	1	
R350		ERJ3GEYJ562	M.RESISTOR CH1/20W 5.6K	1	
R351		ERJ3GEYJ560	M.RESISTOR CH1/20W 56	1	
R352		ERJ3GEYJ104	M.RESISTOR CH1/20W 100K	1	
R353		ERJ3GEYJ223	M.RESISTOR CH1/20W 22K	1	
R354		ERJ3GEYJ273	M.RESISTOR CH1/20W 27K	1	
R355		ERJ3GEYJ102	M.RESISTOR CH1/20W 1K	1	
R357		ERJ3GEYJ273	M.RESISTOR CH1/20W 27K	1	
R358		ERJ3GEYJ102	M.RESISTOR CH1/20W 1K	1	
R359		ERJ3GEYJ104	M.RESISTOR CH1/20W 100K	1	
R360		ERJ3GEYJ472	M.RESISTOR CH1/20W 4.7K	1	
R361,62		ERJ3GEYJ333	M.RESISTOR CH1/20W 33K	2	
R363		ERJ3GEYJ222	M.RESISTOR CH1/20W 2.2K	1	
R364		ERJ3GEYJ472	M.RESISTOR CH1/20W 4.7K	1	
R365		ERJ3GEYJ103	M.RESISTOR CH1/20W 10K	1	
R366		ERJ3GEYJ102	M.RESISTOR CH1/20W 1K	1	
R367		ERJ3GEYJ561	M.RESISTOR CH1/20W 560	1	
R368		ERJ3GEYJ331	M.RESISTOR CH1/20W 330	1	
R369-71		ERJ3GEYJ102	M.RESISTOR CH1/20W 1K	3	
R374,75		ERJ3GEYJ472	M.RESISTOR CH1/20W 4.7K	2	
R376		ERJ3GEYJ473	M.RESISTOR CH1/20W 47K	1	
R377		ERJ3GEYJ102	M.RESISTOR CH1/20W 1K	1	
R378		ERJ3GEYJ392	M.RESISTOR CH1/20W 3.9K	1	
R379		ERJ3GEYJ103	M.RESISTOR CH1/20W 10K	1	
R380		ERJ3GEYJ222	M.RESISTOR CH1/20W 2.2K	1	
R381		ERJ3GEYJ152	M.RESISTOR CH1/20W 1.5K	1	
R382		ERJ3GEYJ273	M.RESISTOR CH1/20W 27K	1	
R383		ERJ3GEYJ683	M.RESISTOR CH1/20W 68K	1	
R385		ERJ3GEYJ823	M.RESISTOR CH1/20W 82K	1	
R386		ERJ3GEYJ183	M.RESISTOR CH1/20W 18K	1	
R387		ERJ3GEYJ103	M.RESISTOR CH1/20W 10K	1	
R388		ERJ3GEYJ182	M.RESISTOR CH1/20W 1.8K	1	
R389		ERJ3GEYJ105	M.RESISTOR CH1/20W 1M	1	
R390		ERJ3GEYJ123	M.RESISTOR CH1/20W 12K	1	
R394		ERJ3GEYJ154	M.RESISTOR CH1/20W 150K	1	
R396		ERJ3GEYJ154	M.RESISTOR CH1/20W 150K	1	
R397		ERJ3GEYJ101	M.RESISTOR CH1/20W 100	1	
R398		ERJ3GEYJ104	M.RESISTOR CH1/20W 100K	1	
R399		ERJ3GEYJ563	M.RESISTOR CH1/20W 56K	1	
R400		ERJ3GEYJ104	M.RESISTOR CH1/20W 100K	1	
R401		ERJ3GEYJ103	M.RESISTOR CH1/20W 10K	1	
R402,03		ERJ3GEYJ102	M.RESISTOR CH1/20W 1K	2	
R404		ERJ3GEYJ472	M.RESISTOR CH1/20W 4.7K	1	
R405		ERJ3GEYJ822	M.RESISTOR CH1/20W 8.2K	1	
R406		ERJ3GEYJ681	M.RESISTOR CH1/20W 680	1	
R408		ERJ3GEYJ681	M.RESISTOR CH1/20W 680	1	
R409		ERJ3GEYJ103	M.RESISTOR CH1/20W 10K	1	
R410		ERJ3GEYJ392	M.RESISTOR CH1/20W 3.9K	1	
R411		ERJ3GEYJ102	M.RESISTOR CH1/20W 1K	1	
R412		ERJ3GEYJ182	M.RESISTOR CH1/20W 1.8K	1	
R413		ERJ3GEYJ222	M.RESISTOR CH1/20W 2.2K	1	
R414		ERJ3GEYJ391	M.RESISTOR CH1/20W 390	1	
R415		ERJ3GEYJ103	M.RESISTOR CH1/20W 10K	1	
R416		ERJ3GEYJ562	M.RESISTOR CH1/20W 5.6K	1	
R417		ERJ3GEYJ102	M.RESISTOR CH1/20W 1K	1	
R418		ERJ3GEYJ103	M.RESISTOR CH1/20W 10K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R419		ERJ3GEYJ152	M.RESISTOR CH1/20W 1.5K	1	
R426		ERJ3GEYJ102	M.RESISTOR CH1/20W 1K	1	
R427		ERJ3GEYJ472	M.RESISTOR CH1/20W 4.7K	1	
R428		ERJ3GEY0R00	M.RESISTOR CH1/20W 0	1	
R429		ERJ3GEYJ222	M.RESISTOR CH1/20W 2.2K	1	
R431		ERJ3GEYJ223	M.RESISTOR CH1/20W 22K	1	
R432		ERJ3GEYJ563	M.RESISTOR CH1/20W 56K	1	
R433		ERJ3GEYJ333	M.RESISTOR CH1/20W 33K	1	
R434		ERJ3GEYJ102	M.RESISTOR CH1/20W 1K	1	
R435		ERJ3GEYJ103	M.RESISTOR CH1/20W 10K	1	
R436		ERJ3GEYJ392	M.RESISTOR CH1/20W 3.9K	1	
R437,38		ERJ3GEYJ102	M.RESISTOR CH1/20W 1K	2	
R439		ERJ3GEYJ472	M.RESISTOR CH1/20W 4.7K	1	
R440		ERJ3GEYJ103	M.RESISTOR CH1/20W 10K	1	
R442		ERJ3GEYJ473	M.RESISTOR CH1/20W 47K	1	
R443,44		ERJ3GEYJ182	M.RESISTOR CH1/20W 1.8K	2	
R445-47		ERJ3GEYJ222	M.RESISTOR CH1/20W 2.2K	3	
R448		ERJ3GEYJ332	M.RESISTOR CH1/20W 3.3K	1	
R449		ERJ3GEYJ392	M.RESISTOR CH1/20W 3.9K	1	
R450		ERJ3GEYJ123	M.RESISTOR CH1/20W 12K	1	
R451		ERJ3GEYJ823	M.RESISTOR CH1/20W 82K	1	
R452		ERJ3GEYJ123	M.RESISTOR CH1/20W 12K	1	
R453		ERJ3GEYJ564	M.RESISTOR CH1/20W 560K	1	
R456,57		ERJ3GEYJ153	M.RESISTOR CH1/20W 15K	2	
R458		ERJ3GEYJ182	M.RESISTOR CH1/20W 1.8K	1	
R459		ERJ3GEYJ392	M.RESISTOR CH1/20W 3.9K	1	
R460		ERJ3GEYJ221	M.RESISTOR CH1/20W 220	1	
R461		ERJ3GEYJ471	M.RESISTOR CH1/20W 470	1	
R462		ERJ3GEYJ102	M.RESISTOR CH1/20W 1K	1	
R463		ERJ3GEYJ392	M.RESISTOR CH1/20W 3.9K	1	
R465		ERJ3GEYJ681	M.RESISTOR CH1/20W 680	1	
R468		ERJ3GEYJ154	M.RESISTOR CH1/20W 150K	1	
R501,02		ERJ3GEYJ682	M.RESISTOR CH1/20W 6.8K	2	
R503,04		ERJ3GEYJ104	M.RESISTOR CH1/20W 100K	2	
R505		ERJ3GEYJ334	M.RESISTOR CH1/20W 330K	1	
R506,07		ERJ3GEYJ103	M.RESISTOR CH1/20W 10K	2	
R508		ERJ3GEYJ104	M.RESISTOR CH1/20W 100K	1	
R509		ERJ3GEYJ224	M.RESISTOR CH1/20W 220K	1	
R510		ERJ3GEYJ154	M.RESISTOR CH1/20W 150K	1	
R511		ERJ3GEYJ224	M.RESISTOR CH1/20W 220K	1	
R512,13		ERJ3GEYJ103	M.RESISTOR CH1/20W 10K	2	
R514,15		ERJ3GEYJ104	M.RESISTOR CH1/20W 100K	2	
R516		ERJ3GEYJ334	M.RESISTOR CH1/20W 330K	1	
R517		ERJ3GEYJ102	M.RESISTOR CH1/20W 1K	1	
R518		ERJ3GEK106	M.RESISTOR CH 3W 10M	1	
R519		ERJ3GEYJ563	M.RESISTOR CH1/20W 56K	1	
R520		ERJ3GEYJ274	M.RESISTOR CH1/20W 270K	1	
R521		ERJ3GEYJ334	M.RESISTOR CH1/20W 330K	1	
R522		ERJ3GEK335	M.RESISTOR CH 3W 3.3M	1	
R523		ERJ3GEYJ563	M.RESISTOR CH1/20W 56K	1	
R524		ERJ3GEYJ564	M.RESISTOR CH1/20W 560K	1	
R525		ERJ3GEYJ102	M.RESISTOR CH1/20W 1K	1	
R526		ERJ3GEK106	M.RESISTOR CH 3W 10M	1	
R527		ERJ3GEYJ563	M.RESISTOR CH1/20W 56K	1	
R528		ERJ3GEYJ274	M.RESISTOR CH1/20W 270K	1	
R529		ERJ3GEYJ334	M.RESISTOR CH1/20W 330K	1	
R530		ERJ3GEK335	M.RESISTOR CH 3W 3.3M	1	
R531		ERJ3GEYJ563	M.RESISTOR CH1/20W 56K	1	
R532		ERJ3GEYJ564	M.RESISTOR CH1/20W 560K	1	
R533		ERJ3GEYJ104	M.RESISTOR CH1/20W 100K	1	
R534-36		ERJ3GEYJ103	M.RESISTOR CH1/20W 10K	3	
R537		ERJ3GEYJ224	M.RESISTOR CH1/20W 220K	1	
R538		ERJ3GEYJ154	M.RESISTOR CH1/20W 150K	1	
R539		ERJ3GEYJ823	M.RESISTOR CH1/20W 82K	1	
R540,41		ERJ3GEYJ103	M.RESISTOR CH1/20W 10K	2	
R542		ERJ3GEYJ224	M.RESISTOR CH1/20W 220K	1	
R543		ERJ3GEYJ103	M.RESISTOR CH1/20W 10K	1	
R544-53		ERJ3GEYJ333	M.RESISTOR CH1/20W 33K	10	
R554,55		ERJ3GEYJ103	M.RESISTOR CH1/20W 10K	2	
R562		ERJ3GEYJ102	M.RESISTOR CH1/20W 1K	1	
R569-71		ERJ3GEYJ103	M.RESISTOR CH1/20W 10K	3	
R572		ERJ3GEYJ102	M.RESISTOR CH1/20W 1K	1	
R574,75		ERJ3GEYJ104	M.RESISTOR CH1/20W 100K	2	
R576		ERJ3GEYJ222	M.RESISTOR CH1/20W 2.2K	1	
R579		ERJ3GEYJ102	M.RESISTOR CH1/20W 1K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R580		ERJ3GEYJ104	M.RESISTOR CH1/20W 100K	1	
R581		ERJ3GEYJ222	M.RESISTOR CH1/20W 2.2K	1	
R582		ERJ3GEYJ104	M.RESISTOR CH1/20W 100K	1	
R583		ERJ3GEYJ102	M.RESISTOR CH1/20W 1K	1	
R584		ERJ3GEY0R00	M.RESISTOR CH1/20W 0	1	
R585		ERJ3GEYJ103	M.RESISTOR CH1/20W 10K	1	
R586		ERJ3GEYJ102	M.RESISTOR CH1/20W 1K	1	
R587,88		ERJ3GEYJ123	M.RESISTOR CH1/20W 12K	2	
R589		ERJ3GEYJ102	M.RESISTOR CH1/20W 1K	1	
R590		ERJ3GEYJ183	M.RESISTOR CH1/20W 18K	1	
R591		ERJ3GEYJ124	M.RESISTOR CH1/20W 120K	1	
R592,93		ERJ3GEYJ223	M.RESISTOR CH1/20W 22K	2	
R594		ERJ3GEYJ224	M.RESISTOR CH1/20W 220K	1	
VR301		EVM7JSX30B14	V.RESISTOR 10K	1	
VR303		EVM7JSX30B24	V.RESISTOR 20K	1	
VR304		EVM7JSX30B54	V.RESISTOR 50K	1	
VR305-07		EVM7JSX30B24	V.RESISTOR 20K	3	
VR309,10		EVM7JSX30B24	V.RESISTOR 20K	2	
VR311,12		EVM7JSX30B14	V.RESISTOR 10K	2	
VR313-15		EVM7JSX30B13	V.RESISTOR 1K	3	
VR317-20		EVM7JSX30B53	V.RESISTOR 5K	4	
VR322		EVM7JSX30B54	V.RESISTOR 50K	1	
VR324		EVM7JSX30B14	V.RESISTOR 10K	1	
VR327		EVM7JSX30B14	V.RESISTOR 10K	1	
VR328		EVM7JSX30B24	V.RESISTOR 20K	1	
VR329		EVM7JSX30B14	V.RESISTOR 10K	1	
VR523		EVM7JSX30B54	V.RESISTOR 50K	1	
VR525,26		EVM7JSX30B24	V.RESISTOR 20K	2	
VR527		EVM7JSX30B54	V.RESISTOR 50K	1	
VR528,29		EVM7JSX30B14	V.RESISTOR 10K	2	
VR530,31		EVM7JSX30B54	V.RESISTOR 50K	2	
VR532		EVM7JSX30B53	V.RESISTOR 5K	1	
VR533		EVM7JSX30B15	V.RESISTOR 100K	1	
	■	VEP27044A	AUTO FOCUS C.B.A.		(NLA)
					INCLUDING THE
					AUTO FOCUS SUB C.B.A.
					(VEP27052A).
B701		VJP1948	CONNECTOR (MALE)	1	
			CAPACITORS		
C701		ECEA0JU471	E.CAPACITOR 6.3V 470U	1	
C702		ECUM1H180JCV	C.CAPACITOR CH 50V 18P	1	
C703		ECRJA030E12	TRIMMER 30P	1	
C706		ECUM1H101JCV	C.CAPACITOR CH 50V 100P	1	
C710,11		ECUM1E473KBM	C.CAPACITOR CH 25V 0.047U	2	
C712		ECEA0JKS101	E.CAPACITOR 6.3V 100U	1	
C713		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C714		ECEA0JKS101	E.CAPACITOR 6.3V 100U	1	
C715		ECSF1AE106	T.CAPACITOR 10V 10U	1	
C716-19		ECEA1CKS100	E.CAPACITOR 16V 10U	4	
C720		ECEA0JSN220	E.CAPACITOR 6.3V 22U	1	
C721		ECUM1E473ZFN	C.CAPACITOR CH 25V 0.047U	1	
C722-24		ECUM1E273KBN	C.CAPACITOR CH 25V 0.027U	3	
C725		ECUM1E683ZFN	C.CAPACITOR CH 25V 0.063U	1	
C726		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C727-29		ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	3	
C730		ECUM1H330JCV	C.CAPACITOR CH 50V 33P	1	
C731		ECUM1E473ZFN	C.CAPACITOR CH 25V 0.047U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C732-35		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	4	
C736		ECUM1H331KBV	C.CAPACITOR CH 50V 330P	1	
C737		ECRJA020E12	TRIMMER 20P	1	
C738,39		ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	2	
C740		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C741		ECST1AC106Z	T.CAPACITOR 10V 10U	1	
C742		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C743		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C744,45		ECEA0JKS470	E.CAPACITOR 6.3V 47U	2	
C746		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C747		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C748		ECEA1CU100	E.CAPACITOR 16V 10U	1	
C749,50		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C751		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
D702		MA141A	DIODE	1	
D703,04		1SS250	DIODE	2	
D771		MA141WA	DIODE	1	
D772		MA110	DIODE	1	
FL701		ELB4B004	FILTER	1	
FL702		VLF0595	FILTER	1	
FL703		ELB4B005	FILTER	1	
FL704		ELB4D001	FILTER	1	
FL705		VLF0596	FILTER	1	
FP701		VJS2112	CONNECTOR (FEMALE)	1	
IC701		MN15867VFK	IC	1	
IC702		AN2584NFAP	IC	1	
IC704		AN6545SP	IC	1	
IC705		NJM3415M	IC	1	
IC706		AN6664S	IC	1	
IC707		MN40175BS	IC	1	
IC771		MN40175BS	IC	1	
L701		VLQ0436	COIL	1	
L702		VLQ0319K101	COIL	1	
L703		VLQ0163K330	COIL 33UH	1	
L704		VLQ0319F150	COIL 15UH	1	
P702		VJP1595R	CONNECTOR(MALE) 2P	1	
P703		VJP1596R	CONNECTOR(MALE) 3P	1	
P704		VJP1596T	CONNECTOR(MALE) 3P	1	
P705		VJP1595T	CONNECTOR(MALE) 2P	1	
P706		VJP1608T	CONNECTOR(MALE)	1	
P707		VJP1603T	CONNECTOR(MALE) 10P	1	
Q701		UN2211	TRANSISTOR-RESISTOR	1	
Q704		2SA1255	TRANSISTOR	1	
Q705		2SC3138	TRANSISTOR	1	
Q706,07		2SD1819	TRANSISTOR	2	
Q708		2SD1483	TRANSISTOR	1	
Q771		XN1212	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R701		ERJ3GEYJ220	M.RESISTOR CH1/20W 22	1	
R702,03		ERJ3GEYJ563	M.RESISTOR CH1/20W 56K	2	
R704-06		ERJ3GEYJ103	M.RESISTOR CH1/20W 10K	3	
R707,08		ERJ3GEYJ563	M.RESISTOR CH1/20W 56K	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R709		ERJ3GEYJ102	M.RESISTOR CH1/20W 1K	1	
R710-16		ERJ3GEYJ104	M.RESISTOR CH1/20W 100K	7	
R717		ERJ3GEYJ123	M.RESISTOR CH1/20W 12K	1	
R718		ERJ3GEYJ154	M.RESISTOR CH1/20W 150K	1	
R719		ERJ3GEG473	M.RESISTOR CH 3W 47K	1	
R720		ERJ3GEG563	M.RESISTOR CH 3W 56K	1	
R721,22		ERJ3GEYJ154	M.RESISTOR CH1/20W 150K	2	
R723		ERJ3GEG563	M.RESISTOR CH 3W 56K	1	
R724		ERJ3GEG473	M.RESISTOR CH 3W 47K	1	
R725		ERJ3GEYJ103	M.RESISTOR CH1/20W 10K	1	
R728		ERJ3GEYJ823	M.RESISTOR CH1/20W 82K	1	
R729		ERJ3GEYJ394	M.RESISTOR CH1/20W 390K	1	
R730		ERJ3GEYJ474	M.RESISTOR CH1/20W 470K	1	
R731		ERJ3GEYJ103	M.RESISTOR CH1/20W 10K	1	
R732		ERJ3GEG822	M.RESISTOR CH 3W 8.2K	1	
R733		ERJ3GEG472	M.RESISTOR CH 3W 4.7K	1	
R734-38		ERJ3GEYJ102	M.RESISTOR CH1/20W 1K	5	
R739		ERJ3GEYJ823	M.RESISTOR CH1/20W 82K	1	
R742		ERJ3GEYJ102	M.RESISTOR CH1/20W 1K	1	
R743		ERJ3GEYJ472	M.RESISTOR CH1/20W 4.7K	1	
R744		ERJ3GEYJ103	M.RESISTOR CH1/20W 10K	1	
R745		ERJ3GEYJ100	M.RESISTOR CH1/20W 10	1	
R746		ERJ3GEYJ273	M.RESISTOR CH1/20W 27K	1	
R747		ERJ3GEYJ104	M.RESISTOR CH1/20W 100K	1	
R748,49		ERJ3GEYJ274	M.RESISTOR CH1/20W 270K	2	
R750		ERJ3GEYJ331	M.RESISTOR CH1/20W 330	1	
R752		ERJ3GEYJ273	M.RESISTOR CH1/20W 27K	1	
R753		ERJ3GEYJ682	M.RESISTOR CH1/20W 6.8K	1	
R754		ERJ3GEYJ564	M.RESISTOR CH1/20W 560K	1	
R755-57		ERJ3GEYJ102	M.RESISTOR CH1/20W 1K	3	
R758		ERJ3GEYJ221	M.RESISTOR CH1/20W 220	1	
R760,61		ERJ3GEYJ332	M.RESISTOR CH1/20W 3.3K	2	
R762		ERJ3GEYJ221	M.RESISTOR CH1/20W 220	1	
R763		ERJ6GEYJ270	M.RESISTOR CH 1/10W 27	1	
R770		ERJ3GEY0R00	M.RESISTOR CH1/20W 0	1	
R771		ERJ3GEYJ103	M.RESISTOR CH 1/20W 10K	1	
T701		ETE13K43AY	TRANSFORMAR	1	
VR701		EVLHGNA12A54	V.RESISTOR 50K	1	
VR703		EVM7JSX30B14	V.RESISTOR 10K	1	
X701		VSX0299	CRYSTAL OSCILLATOR	1	
	■	VEP22085A	CCD DRIVE C.B.A.		NV-M10E/B/EO/A/EA
		VEP22085C			NV-M10EG
					(NLA)
B201		VJP1948	CONNECTOR (MALE)	1	
			CAPACITORS		
C201		ECSF1AE106	T.CAPACITOR 10V 10U	1	
C202,03		ECUM1H150JCV	C.CAPACITOR CH 50V 15P	2	
C204		ECUM1H390JCV	C.CAPACITOR CH 50V 39P	1	
C206		ECRJA010A12	TRIMMER 10P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C207		ECSF1AE106	T.CAPACITOR 10V 10U	1	
C208		ECEV0JA220	E.CAPACITOR 6.3V 22U	1	
C209		ECSF1CE106	T.CAPACITOR 16V 10U	1	
C210		ECEV1HA010	E.CAPACITOR 50V 1U	1	
C211		ECUM1E104ZFM	C.CAPACITOR CH 25V 0.1U	1	
C212		ECEA1EKS100	E.CAPACITOR 25V 10U	1	
C213		ECUM1E473ZFN	C.CAPACITOR CH 25V 0.047U	1	
C214		ECEA1HKS010	E.CAPACITOR 50V 1U	1	
C215,16		ECUM1H270JCV	C.CAPACITOR CH 50V 27P	2	
C218,19		ECUM1H270JCV	C.CAPACITOR CH 50V 27P	2	
C220		ECSF1CE106	T.CAPACITOR 16V 10U	1	
C221,22		ECUM1H270JCV	C.CAPACITOR CH 50V 27P	2	
C223		ECUM1H682ZFV	C.CAPACITOR CH 50V 6800P	1	
C225		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C226		ECEA1EKS100	E.CAPACITOR 25V 10U	1	
C229		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C230-33		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	4	
C236		ECUM1H150JCV	C.CAPACITOR CH 50V 15P	1	
C237		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C238-40		ECUM1H330JCV	C.CAPACITOR CH 50V 33P	3	
C241		ECUM1H101JCV	C.CAPACITOR CH 50V 100P	1	
C242,43		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C244		ECUM1E473ZFN	C.CAPACITOR CH 25V 0.047U	1	
C245		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C246		ECUM1H150JCV	C.CAPACITOR CH 50V 15P	1	
C247		ECEV1CA100	E.CAPACITOR 16V 10U	1	
C248-50		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	3	
C251		ECUM1H330JCV	C.CAPACITOR CH 50V 33P	1	
C252,53		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C255		ECEV1CA100	E.CAPACITOR 16V 10U	1	
C260-63		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	4	
C280		ECSF1AE106	T.CAPACITOR 10V 10U	1	
C281		ECSF1CE106	T.CAPACITOR 16V 10U	1	
C282,83		ECUM1H180JCV	C.CAPACITOR CH 50V 18P	2	
C284		ECUM1E473ZFN	C.CAPACITOR CH 25V 0.047U	1	
C285		ECUM1H180JCV	C.CAPACITOR CH 50V 18P	1	
D202		MA728	DIODE	1	
D204,05		MA110	DIODE	2	
D207		MA110	DIODE	1	
D209		MA141WK	DIODE	1	
D210-13		MA110	DIODE	4	
FL201		ELB5B010	FILTER	1	
FP201		VJS2143	CONNECTOR (FEMALE)	1	
IC201		MN73912XWB	IC	1	
IC202		MN3107CS	IC	1	
IC203		AN2012S	IC	1	
L201		ELJFA150KF	COIL	1	
L203-07		ELJFA150KF	COIL	5	
L210-14		VLQ0291	COIL	5	
Q201-03		2SD1819	TRANSISTOR	3	
Q204		2SC3930	TRANSISTOR	1	
Q205		2SA1610	TRANSISTOR	1	
Q206		2SC4176	TRANSISTOR	1	
Q207		2SA1610	TRANSISTOR	1	
Q208		2SC4176	TRANSISTOR	1	
Q209		2SA1610	TRANSISTOR	1	
Q210		2SC4176	TRANSISTOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			RESISTORS		
R201		ERJ3GEYJ331	M.RESISTOR CH1/20W 330	1	
R202		ERJ3GEYJ151	M.RESISTOR CH1/20W 150	1	
R203		ERJ3GEYJ105	M.RESISTOR CH1/20W 1M	1	
R204		ERJ3GEYJ102	M.RESISTOR CH1/20W 1K	1	
R205		ERJ3GEYJ333	M.RESISTOR CH1/20W 33K	1	
R206		ERJ3GEYJ183	M.RESISTOR CH1/20W 18K	1	
R207		ERJ3GEYJ103	M.RESISTOR CH1/20W 10K	1	
R208		ERJ3GEYJ471	M.RESISTOR CH1/20W 470	1	
R209		ERJ3GEYJ473	M.RESISTOR CH1/20W 47K	1	
R210,11		ERJ3GEYJ472	M.RESISTOR CH1/20W 4.7K	2	
R212		ERJ3GEYJ330	M.RESISTOR CH1/20W 33	1	
R216		ERJ3GEYJ103	M.RESISTOR CH1/20W 10K	1	
R217		ERJ3GEYJ101	M.RESISTOR CH1/20W 100	1	
R218		ERJ3GEYJ472	M.RESISTOR CH1/20W 4.7K	1	
R221		ERJ3GEYJ101	M.RESISTOR CH1/20W 100	1	
R222		ERJ3GEYJ123	M.RESISTOR CH1/20W 12K	1	
R223,24		ERJ3GEYJ221	M.RESISTOR CH1/20W 220	2	
R225,26		ERJ3GEYJ102	M.RESISTOR CH1/20W 1K	2	
R227		ERJ3GEYJ272	M.RESISTOR CH1/20W 2.7K	1	
R228		ERJ3GEYJ221	M.RESISTOR CH1/20W 220	1	
R229		ERJ3GEYJ102	M.RESISTOR CH1/20W 1K	1	
R230		ERJ3GEYJ105	M.RESISTOR CH1/20W 1M	1	
R231		ERJ3GEYJ104	M.RESISTOR CH1/20W 100K	1	
R232,33		ERJ3GEYJ101	M.RESISTOR CH1/20W 100	2	
R234		ERJ3GEYJ272	M.RESISTOR CH1/20W 2.7K	1	
R235		ERJ3GEYJ104	M.RESISTOR CH1/20W 100K	1	
R236		ERJ3GEYJ270	M.RESISTOR CH1/20W 27	1	
R240		ERJ3GEYJ332	M.RESISTOR CH1/20W 3.3K	1	
R270		ERJ8GCYJ330	M.RESISTOR CH 1/8W 33	1	
VR201		EVM7JSX30B25	V.RESISTOR 200K	1	
VR202		EVM7JSX30B54	V.RESISTOR 50K	1	
X201		VSX0240	CRYSTAL OSCILLATOR	1	
	■	VEP26055A	AWT C.B.A.		(NLA)
			CAPACITORS		
C601-03		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	3	
IC601		M51096AU	IC	1	
IC602		AN1358S	IC	1	
P601		VJP1598T	CONNECTOR(MALE) 5P	1	
			RESISTORS		
R601		ERJ6GEYF123	M.RESISTOR CH 1/10W 12K	1	
R602		ERJ6GEYF822	M.RESISTOR CH 1/10W 8.2K	1	
R603		ERJ6GEYF124	M.RESISTOR CH 1/10W 120K	1	
R604		ERJ3GEYJ222	M.RESISTOR CH1/20W 2.2K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R605		ERJ3GEYJ102	M.RESISTOR CH1/20W 1K	1	
R606,07		ERJ3GEYJ103	M.RESISTOR CH1/20W 10K	2	
R608		ERJ3GEYJ102	M.RESISTOR CH1/20W 1K	1	
R609		ERJ3GEYJ222	M.RESISTOR CH1/20W 2.2K	1	
R610		ERJ3GEYJ103	M.RESISTOR CH1/20W 10K	1	
	■	VEP00P37A	FOCUS & ZOOM POSITION DETECTOR C.B.A.		(NLA)
	■	VEP27033G	E.V.F. C.B.A.		(NLA)
			CAPACITORS		
C701		ECEA0JKS101	E.CAPACITOR 6.3V 100U	1	
C702		ECSE1CY684V	T.CAPACITOR 16V 0.68U	1	
C703		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C704		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C705		ECEA1CKE101	E.CAPACITOR 16V 100U	1	
C706		ECUM1H681JCN	C.CAPACITOR CH 50V 680P	1	
C707		ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	1	
C708		ECUM1E223KBN	C.CAPACITOR CH 25V 0.023U	1	
C709		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C710		ECUM1H152JN	C.CAPACITOR CH 50V 1500P	1	
C711		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C712		ECEA1AF470	E.CAPACITOR 10V 47U	1	
C713		ECEA0JK221	E.CAPACITOR 6.3V 220U	1	
C714		ECQK1392JZ	P.CAPACITOR 100V 3900P	1	
C715		ECEA1CKS220	E.CAPACITOR 16V 22U	1	
C716		ECUM1H181KN	C.CAPACITOR CH 50V 180P	1	
C717		ECEA1HKS4R7	E.CAPACITOR 50V 4.7U	1	
C718		VCK0075K121	C.CAPACITOR 120P	1	
C719		VCK0058K331	C.CAPACITOR 330P	1	
C720,21		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	2	
C722		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
D701		MA151K	DIODE	1	
D702		ERA91-02	DIODE	1	
D703		ERA34-10	DIODE	1	
IC701		AN2510S	IC	1	
L701		ELC04D007	COIL	1	
L702		ELH5L328	COIL	1	
P701		VJP1234	CONNECTOR(MALE)	1	
P702		VJP1231T	CONNECTOR(MALE) 4P	1	
P703		VJP1229T	CONNECTOR(MALE)	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
Q701		2SB709	TRANSISTOR CHIP	1	
Q702		2SD968A	TRANSISTOR	1	
Q703		2SA1022	TRANSISTOR	1	
			RESISTORS		
R701		ERJ6GEYK6R8	M.RESISTOR CH 1/10W 6.8	1	
R702		ERJ6GEYG682	M.REISITOR CH 1/10W 6.8K	1	
R703		ERJ6GEYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R704		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R705		ERJ6GEYK4R7	M.RESISTOR CH 1/10W 4.7	1	
R706		ERJ6GEYJ150	M.RESISTOR CH 1/10W 15	1	
R707		ERJ6GEYJ151	M.RESISTOR CH 1/10W 150	1	
R708		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R709		ERJ6GEYJ163	M.RESISTOR CH 1/10W 16K	1	
R710		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R711		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R712		ERJ6GEYJ683	M.RESISTOR CH 1/10W 68K	1	
R713		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R714		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R715,16		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R717		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R718		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R719		ERJ8GCYJ222	M.RESISTOR CH 1/8W 2.2K	1	
R720		ERJ6GEYJ274	M.RESISTOR CH 1/10W 270K	1	
R721		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R722		ERJ6GEYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R723		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R724		ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	1	
R726,27		ERJ6GEYK155	M.RESISTOR CH 1/10W 1.5M	2	
R728		ERJ6GEYK335	M.RESISTOR CH 1/10W 3.3M	1	
R729		ERJ6GEYJ474	M.RESISTOR CH 1/10W 470K	1	
R730		ERJ6GEYJ821	M.RESISTOR CH 1/10W 820	1	
R731		ERJ8GCYJ272	M.RESISTOR CH 1/8W 2.7K	1	
T701		ETF14L35A	FLYBACK TRANS.	1	
TH701		VRT0012	THERMISTER	1	
VR701		VRV0079B221K	V.RESISTOR 2.2K	1	
VR702		VRV0079B472K	V.RESISTOR 4.7K	1	
VR704		VRV0027B225K	V.RESISTOR 2.2M	1	
VR705		VRV0027B105K	V.RESISTOR 1M	1	
	■	VEP27042A	E.V.F. LED C.B.A.		(NLA)
D761		SLM126VRS	DIODE	1	
P761		VJP1229T	CONNECTOR (MALE)	1	
			RESISTORS		

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R761		ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	1	
	■	VEP27043A	E.V.F. TALLEY LED C.B.A.		(NLA)
D751		EBR5773X	DIODE	1	
P751		VJP1229T	CONNECTOR (MALE)	1	
			RESISTORS		
R751		ERJ8GCYJ151	M.RESISTOR CH 1/8W 150	1	
			MISCELLANEOUS		
		VMX1615	LED SPACER	1	
	■	VEP06612A	MAIN C.B.A.		(NLA)
			CAPACITORS		
C1001		ECUM1H820JCV	C.CAPACITOR CH 50V 82P	1	
C1002		ECUM1H561KBV	C.CAPACITOR CH 50V 560P	1	
C1003		ECUM1H391KBV	C.CAPACITOR CH 50V 390P	1	
C1004		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C1005,06		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	2	
C1007		ECEA1EU101	E.CAPACITOR 25V 100U	1	
C1008,09		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	2	
C1010		ECEA1EU101	E.CAPACITOR 25V 100U	1	
C1011		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C1012		ECEA1AGE221	E.CAPACITOR 10V 220U	1	
C1013		ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C1014		ECUM1H223ZFV	C.CAPACITOR CH 50V 0.022U	1	
C1015,16		ECEA1AGE221	E.CAPACITOR 10V 220U	2	
C1017		ECEA1CKA220	E.CAPACITOR 16V 22U	1	
C1018,19		ECEA1AGE221	E.CAPACITOR 10V 220U	2	
C1020,21		ECEA1CKJ101	E.CAPACITOR 16V 100U	2	
C1026		ECUM1H153ZFV	C.CAPACITOR CH 50V 0.015U	1	
C1027		ECUM1H272KBV	C.CAPACITOR CH 50V 2700U	1	
C1028		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C1029		ECEA1CU101	E.CAPACITOR 16V 100U	1	
C1030,31		ECEA1AKA330	E.CAPACITOR 10V 33U	2	
C1032		ECUM1H472KBV	C.CAPACITOR CH 50V 4700P	1	
C1033		ECEA1CKK100	E.CAPACITOR 16V 10U	1	
C1034		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C1035		ECEA1AGE221	E.CAPACITOR 10V 220U	1	
C1040		ECUM1H223ZFV	C.CAPACITOR CH 50V 0.022U	1	
C1041		ECEA1AKA221	E.CAPACITOR 10V 220U	1	
C1042		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C1043		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C1044		ECEA0JKS220	E.CAPACITOR 6.3V 22U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C2001,02		ECUM1H101JCV	C.CAPACITOR CH 50V 100P	2	
C2003		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C2004,05		ECEA0JKA470	E.CAPACITOR 6.3V 47U	2	
C2006		ECUM1C473ZFV	C.CAPACITOR CH 16V 0.047U	1	
C2007		ECUM1H472ZFV	C.CAPACITOR CH 50V 4700P	1	
C2009,10		ECEA1CKA220	E.CAPACITOR 16V 22U	2	
C2011		ECUM1C473ZFV	C.CAPACITOR CH 16V 0.047U	1	
C2012		ECUM1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C2013		ECUM1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C2014		ECEA1VKN2R2	E.CAPACITOR 35V 2.2U	1	
C2015,16		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	2	
C2017,18		ECUM1H102KBV	C.CAPACITOR CH 50V 1000P	2	
C2019		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C2020		ECUM1H471KBV	C.CAPACITOR CH 50V 470P	1	
C2021,22		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	2	
C2023		ECUM1E333ZFN	C.CAPACITOR CH 25V 0.033U	1	
C2024		ECEA1CKA220	E.CAPACITOR 16V 22U	1	
C2025,26		ECEA0JKA470	E.CAPACITOR 6.3V 47U	2	
C2027		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C2028		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C2029		ECUM1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C2030		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C2032		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C2033		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C2034		ECUM1H101JCV	C.CAPACITOR CH 50V 100P	1	
C2035		ECUM1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C2036		ECUM1E104ZFM	C.CAPACITOR CH 25V 0.1U	1	
C2037		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C2038		ECEA0JKA220	E.CAPACITOR 6.3V 22U	1	
C2039		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C2040		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C2041		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C2042		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C2043		ECEA1CKK100	E.CAPACITOR 16V 10U	1	
C2044		ECUM1C184ZFN	C.CAPACITOR CH 16V 0.18U	1	
C2045		ECQV1H393JZ	P.CAPACITOR 50V 0.039U	1	
C2046-48		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	3	
C2049		ECUM1C333ZFV	C.CAPACITOR CH 16V 0.033U	1	
C2050		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C2051,52		ECEA0JKA470	E.CAPACITOR 6.3V 47U	2	
C2053		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C2054		ECUM1C333ZFV	C.CAPACITOR CH 16V 0.033U	1	
C2055		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C2056-58		ECEA1EKN3R3	E.CAPACITOR 25V 3.3U	3	
C2059-61		ECUM1H472ZFV	C.CAPACITOR CH 50V 4700P	3	
C2062-64		ECEA1CKA470	E.CAPACITOR 16V 47U	3	
C2065-67		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	3	
C2068		ECEA1HKKR47	E.CAPACITOR 50V 0.47U	1	
C2071		ECUM1C333ZFV	C.CAPACITOR CH 16V 0.033U	1	
C2072,73		ECUM1C474ZFM	C.CAPACITOR CH 16V 0.47U	2	
C2078		ECUM1C473ZFV	C.CAPACITOR CH 16V 0.047U	1	
C2081		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C3801		ECEA1CKA101	E.CAPACITOR 16V 100U	1	
C3802,03		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C3805		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3807		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C3840		ECUM1H331KBV	C.CAPACITOR CH 50V 330P	1	
C3841		ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C3842-44		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	3	
C3847		ECUM1H471KBV	C.CAPACITOR CH 50V 470P	1	
C4001		ECQP1222JZ	P.CAPACITOR 100V 2200P	1	
C4002		ECRHC120N11	TRIMMER 120P	1	
C4003		ECUM1H562KBV	C.CAPACITOR CH 50V 5600P	1	
C4004		ECUM1H472KBV	C.CAPACITOR CH 50V 4700P	1	
C4005		ECUM1H122KBV	C.CAPACITOR CH 50V 1200P	1	
C4007		ECSF1VE105GD	T.CAPACITOR 35V 1U	1	
C4008		ECUM1E333KBN	C.CAPACITOR CH 25V 0.033U	1	
C4009		ECEA1AKA330	E.CAPACITOR 10V 33U	1	
C4011		ECUM1E822KBV	C.CAPACITOR CH 25V 8200P	1	
C4012		ECEA1CKA220	E.CAPACITOR 16V 22U	1	
C4013		ECEA1HSN010	E.CAPACITOR 50V 1U	1	
C4014		ECUM1H182KBV	C.CAPACITOR CH 50V 1800P	1	
C4015		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C4016		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C4017		ECEA1CKA220	E.CAPACITOR 16V 22U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C4018		ECEA1AKA221	E.CAPACITOR 10V 220U	1	
C4019		ECEA1HKK010	E.CAPACITOR 50V 1U	1	
C4021		ECUM1E333KBN	C.CAPACITOR CH 25V 0.033U	1	
C4022		ECEA1HKK010	E.CAPACITOR 50V 1U	1	
C4024-26		ECEA1CKA220	E.CAPACITOR 16V 22U	3	
C4027		ECUX1H682KBN	C.CAPACITOR CH 50V 6800P	1	
C4038		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C4040		ECUM1H151JV	C.CAPACITOR CH 50V 150P	1	
C4041,42		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	2	
C4560		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C4561		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C4562-64		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	3	
C4568		ECEA1CKK100	E.CAPACITOR 16V 10U	1	
C4569		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C4590		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C4591		ECEA1ASE101	E.CAPACITOR 10V 100U	1	
C4593		ECEA1EKK2R2	E.CAPACITOR 25V 2.2U	1	
C4802,03		ECEA1AKA330	E.CAPACITOR 10V 33U	2	
C4804,05		ECEA1AKN100	E.CAPACITOR 10V 10U	2	
C4806,07		ECEA0JKA101	E.CAPACITOR 6.3V 100U	2	
C4808,09		ECEA1CKK100	E.CAPACITOR 16V 10U	2	
C4810		ECUM1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C4811		ECUM1H330JCV	C.CAPACITOR CH 50V 33P	1	
C4812		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C4813		ECEA1CKK100	E.CAPACITOR 16V 10U	1	
C4814		ECEA1CKA101	E.CAPACITOR 16V 100U	1	
C4815		ECUM1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C4816		ECUM1H330JCV	C.CAPACITOR CH 50V 33P	1	
C4817		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C4818		ECEA1CKA101	E.CAPACITOR 16V 100U	1	
C4835		ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C4837,38		ECEA1CKA220	E.CAPACITOR 16V 22U	2	
C4839		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C4840		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C4841,42		ECEA1EKN3R3	E.CAPACITOR 25V 3.3U	2	
C4843		ECEA1EKK3R3	E.CAPACITOR 25V 3.3U	1	
C4845		ECEA1EKK3R3	E.CAPACITOR 25V 3.3U	1	
C4846,47		ECEA1CKA220	E.CAPACITOR 16V 22U	2	
C4849,50		ECUM1H560JCV	C.CAPACITOR CH 50V 56P	2	
C4851,52		ECEA1HKK010	E.CAPACITOR 50V 1U	2	
C4855		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C4856		ECEA1CKA101	E.CAPACITOR 16V 100U	1	
C4857,58		ECEA0JKA101	E.CAPACITOR 6.3V 100U	2	
C4859		ECEA1EKK3R3	E.CAPACITOR 25V 3.3U	1	
C4860		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C4862		ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C4863,64		ECUM1H151JV	C.CAPACITOR CH 50V 150P	2	
C5001		ECUM1E103KBV	C.CAPACITOR CH 25V 0.01U	1	
C5002		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C5003		ECUM1E103KBV	C.CAPACITOR CH 25V 0.01U	1	
C5004		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C5005		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C5006		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C5007		ECUM1E103KBV	C.CAPACITOR CH 25V 0.01U	1	
C5008		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C5009		ECUM1E103KBV	C.CAPACITOR CH 25V 0.01U	1	
C5010		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C5011		ECUM1E103KBV	C.CAPACITOR CH 25V 0.01U	1	
C5013		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C5014		ECUM1E103KBV	C.CAPACITOR CH 25V 0.01U	1	
C5015		ECUM1H101JCV	C.CAPACITOR CH 50V 100P	1	
C5016,17		ECUM1E103KBV	C.CAPACITOR CH 25V 0.01U	2	
C5018		ECUM1H101JCV	C.CAPACITOR CH 50V 100P	1	
C5019		ECUM1E103KBV	C.CAPACITOR CH 25V 0.01U	1	
C5020		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C5023		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C5025		ECUM1E103KBV	C.CAPACITOR CH 25V 0.01U	1	
C5026,27		ECUM1H101JCV	C.CAPACITOR CH 50V 100P	2	
C5028-30		ECUM1E103KBV	C.CAPACITOR CH 25V 0.01U	3	
C5031		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C5033		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C5034-36		ECUM1E103KBV	C.CAPACITOR CH 25V 0.01U	3	
C5037		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C5038		ECUM1H151JV	C.CAPACITOR CH 50V 150P	1	
C5039		ECUM1H121JCV	C.CAPACITOR CH 50V 120P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C5040		ECUM1H390JCV	C.CAPACITOR CH 50V 39P	1	
C5041-44		ECUM1H4722FV	C.CAPACITOR CH 50V 4700P	4	
C6001		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6002		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C6003		ECEA1EKA100	E.CAPACITOR 25V 10U	1	
C6004		ECEA1AKA330	E.CAPACITOR 10V 33U	1	
C6005		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6006,07		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C6008		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C6009		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6010		ECUM1H330JCV	C.CAPACITOR CH 50V 33P	1	
C6011		ECRJA030E12	V.CAPACITOR	1	
C6014		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6015		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C6016-18		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	3	
C6019		ECEA1EKA220	E.CAPACITOR 25V 22U	1	
C6020		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6021-23		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	3	
C6024		ECUM1H562ZFV	C.CAPACITOR CH 50V 5600P	1	
C6025		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6026		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6027		ECEA1EKA100	E.CAPACITOR 25V 10U	1	
C6028		ECEA1HKK010	E.CAPACITOR 50V 1U	1	
C6029		ECUM1H331KBV	C.CAPACITOR CH 50V 330P	1	
C6030		ECEA1EGE221	E.CAPACITOR 25V 220U	1	
C6031		ECUM1H151JV	C.CAPACITOR CH 50V 150P	1	
C6034		ECKF1H821KB	C.CAPACITOR 50V 820P	1	
D1001,02		MA141K	DIODE	2	
D1003		MA159A	DIODE	1	
D1004		MA3075H	DIODE	1	
D1005,06		MA141K	DIODE	2	
D2001-03		MA143	DIODE	3	
D2005		MA121	DIODE	1	
D2012,13		MA141K	DIODE	2	
D3801,02		MA141WK	DIODE	2	
D3803		MA3056	DIODE	1	
D4801		MA141K	DIODE	1	
D4802		MA141WK	DIODE	1	
D4803,04		MA143	DIODE	2	
D4805		MA141K	DIODE	1	
D4806		MA141WA	DIODE	1	
D4807		MA143	DIODE	1	
D4808		MA141WA	DIODE	1	
D6001		MA141WA	DIODE	1	
D6002		MA141K	DIODE	1	
D6003		MA141WA	DIODE	1	
D6004		MA141WK	DIODE	1	
D6005		MA141WA	DIODE	1	
D6009		MA141WA	DIODE	1	
D6010,11		MA141K	DIODE	2	
D6012		MA141WK	DIODE	1	
D6015		MA141WA	DIODE	1	
D6017		MA143	DIODE	1	
D6018		MA141WK	DIODE	1	
D6019		MA141K	DIODE	1	
D6021-25		MA141K	DIODE	5	
D6026		MA3056	DIODE	1	
D6029		MA141K	DIODE	1	
IC1001		BA6149LS	IC	1	
IC1002		UN102	TRANSISTOR-RESISTOR	1	
IC1003		AN6562S	IC	1	
IC1004		AN6914S	IC	1	
IC1005		AN1358S	IC	1	
IC2001		MN67461VDJF	IC	1	
IC2002		AN3798NS	IC	1	
IC2005		AN3841SR	IC	1	
IC2006		TA8402F	IC	1	
IC4001		UPC1513G	IC	1	
IC4002		UPC2300G	IC	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
IC4003		UPC78L05J	IC	1	
IC4801		BA3308	IC	1	
IC4804		MN4053BS	IC	1	
IC4805		NJM3415M	IC	1	
IC5001		AN3346FBP	IC	1	
IC6001		UPD4094BG	IC	1	
IC6002		M50963MS2AC	IC	1	
IC6003		S3500A2	IC	1	
IC6004		UPD6145G617A	IC	1	
IC6005		M54543AL	IC	1	
IC6006		UPD4094BG	IC	1	
IC6007		MN12821Q	IC	1	
IC6008		UPD4094BG	IC	1	
L1001		VLQ0128	COIL 47UH	1	
L1002		ELC08D038	COIL 180UH	1	
L1003		ELC06D005	COIL	1	
L1004		VLQ0128	COIL 47UH	1	
L1005		ELC08D050	COIL	1	
L1006		VLQ0128	COIL 47UH	1	
L1007		ELC08D025	COIL 600UH	1	
L1008		VLQ0129	COIL 300UH	1	
L1011,12		VLQEL05F221K	COIL 220UH	2	
L1014		VLQEL05F101K	COIL 100UH	1	
L3801		VLQEL05F101K	COIL 100UH	1	
L4001		VLQEL05F221K	COIL 220UH	1	
L4002		VLQEL07F822J	COIL 8200UH	1	
L4003		VLQEL07F153J	COIL 15H	1	
L4502,03		VLQEL05F101K	COIL 100UH	2	
L4507		ELC06D005	COIL	1	
L5001-03		VLQEL05F101K	COIL 100UH	3	
L5004		VLQEL05F100K	COIL 10UH	1	
L5005		VLQ0213K120	COIL	1	
L6001		VLQEL05F101K	COIL 100UH	1	
L6002		VLQEL04F101K	COIL 100UH	1	
L6003		VLQ0163F390	COIL 39UH	1	
P1001		VJP1231T	CONNECTOR(MALE) 4P	1	
P1003		VJP1229T	CONNECTOR(MALE) 2P	1	
P2001		VJS2120	CONNECTOR	1	
P2002		VJP1923T	CONNECTOR	1	
P3801		VJP2237	CONNECTOR(MALE)	1	
P3802		VJS2119	CONNECTOR	1	
P3803		VJP1598T	CONNECTOR(MALE) 5P	1	
P3804		VJP1603T	CONNECTOR(MALE) 10P	1	
P3805		VJP1595T	CONNECTOR(MALE) 2P	1	
P4001		VJP1597T	CONNECTOR(MALE) 4P	1	
P4002		VJP1600T	CONNECTOR(MALE) 7P	1	
P4003		VJS2119	CONNECTOR	1	
P4801		VJP1602T	CONNECTOR	1	
P4804		VJP1603T	CONNECTOR(MALE) 10P	1	
P5001		VJS2117	CONNECTOR	1	
P6002		VJP1603T	CONNECTOR(MALE) 10P	1	
P6003		VJS2107	CONNECTOR	1	
P6004		VJP1229T	CONNECTOR(MALE) 2P	1	
P6005		VJP1595T	CONNECTOR(MALE) 2P	1	
P6006		VJP1596T	CONNECTOR(MALE) 3P	1	
P6007		VJP1602T	CONNECTOR	1	
P6010		VJP1596T	CONNECTOR(MALE) 3P	1	
P6011		VJP2523	CONNECTOR(MALE)	1	
P6012		VJP1229T	CONNECTOR(MALE) 2P	1	
P6013		VJP1595R	CONNECTOR(MALE) 2P	1	
P6014		VJP1600T	CONNECTOR(MALE) 7P	1	
P6016		VJP1595T	CONNECTOR(MALE) 2P	1	
Q1001		2SB1218	TRANSISTOR	1	
Q1002		2SB956	TRANSISTOR	1	
Q1003		2SD1526	TRANSISTOR	1	
Q1004		2SD1119	TRANSISTOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
Q1005		2SD602	TRANSISTOR CHIP	1	
Q1006		2SB970X	TRANSISTOR	1	
Q1007		2SD1328X	TRANSISTOR	1	
Q1008		2SD602	TRANSISTOR CHIP	1	
Q1011		2SB1218	TRANSISTOR	1	
Q2001-03		2SB956	TRANSISTOR	3	
Q3801,02		2SB970X	TRANSISTOR	2	
Q3803,04		FMS1	TRANSISTOR-RESISTOR	2	
Q3805		2SC3938	TRANSISTOR	1	
Q3806		2SD1819	TRANSISTOR	1	
Q3808		2SB1218	TRANSISTOR	1	
Q4001		2SD1820	TRANSISTOR	1	
Q4005		2SB970X	TRANSISTOR	1	
Q4507		2SD1819	TRANSISTOR	1	
Q4508		2SD1820	TRANSISTOR	1	
Q4509		2SB1218	TRANSISTOR	1	
Q4522,23		2SB970X	TRANSISTOR	2	
Q4524		2SB956	TRANSISTOR	1	
Q4801,02		2SA1531	TRANSISTOR	2	
Q4803-05		2SD1819	TRANSISTOR	3	
Q4807,08		2SD1328	TRANSISTOR CHIP	2	
Q4809,10		2SD1328X	TRANSISTOR	2	
Q5001		2SB1218	TRANSISTOR	1	
Q5002		2SA812	TRANSISTOR	1	
Q5003		2SA1175	TRANSISTOR	1	
Q5004,05		XN4504	TRANSISTOR-RESISTOR	2	
Q6001		2SB1218	TRANSISTOR	1	
Q6002		2SB970X	TRANSISTOR	1	
Q6003		2SD1819	TRANSISTOR	1	
Q6004,05		2SD1820	TRANSISTOR	2	
Q6006		2SD1819	TRANSISTOR	1	
Q6007		FMW1	TRANSISTOR-RESISTOR	1	
QR1001		FMG2	TRANSISTOR-RESISTOR	1	
QR1002		GA1L4M	TRANSISTOR-RESISTOR	1	
QR2005		GN1F4Z	TRANSISTOR-RESISTOR	1	
QR3801		GN1F4M	TRANSISTOR-RESISTOR	1	
QR3802		GA1F4Z	TRANSISTOR-RESISTOR	1	
QR3803		GN1F4M	TRANSISTOR-RESISTOR	1	
QR3804		GA1F4Z	TRANSISTOR-RESISTOR	1	
QR3805		FMG1	TRANSISTOR-RESISTOR	1	
QR3806		GA1L4M	TRANSISTOR-RESISTOR	1	
QR3807		GA1F4M	TRANSISTOR-RESISTOR	1	
QR3808		FMS1	TRANSISTOR-RESISTOR	1	
QR3809		GA1F4M	TRANSISTOR-RESISTOR	1	
QR4002		GA1F4M	TRANSISTOR-RESISTOR	1	
QR4003,04		GN1L3Z	TRANSISTOR-RESISTOR	2	
QR4507,08		GA1L4M	TRANSISTOR-RESISTOR	2	
QR4512		FMW1	TRANSISTOR-RESISTOR	1	
QR4803,04		GA1L4M	TRANSISTOR-RESISTOR	2	
QR4805		GN1L4M	TRANSISTOR-RESISTOR	1	
QR4806		GN1L4Z	TRANSISTOR-RESISTOR	1	
QR4807		GN1L4M	TRANSISTOR-RESISTOR	1	
QR4808		GA1L4M	TRANSISTOR-RESISTOR	1	
QR5001		GA1A4Z	TRANSISTOR-RESISTOR	1	
QR5002,03		FMG1	TRANSISTOR-RESISTOR	2	
QR6001		IMD2	TRANSISTOR-RESISTOR	1	
QR6002		GA1F4M	TRANSISTOR-RESISTOR	1	
QR6003		XN1217	TRANSISTOR-RESISTOR	1	
QR6004		GA1L4M	TRANSISTOR-RESISTOR	1	
QR6005		GA1F4Z	TRANSISTOR-RESISTOR	1	
QR6006		XN1217	TRANSISTOR-RESISTOR	1	
QR6009		GA1F4Z	TRANSISTOR-RESISTOR	1	
QR6010		GA1L4L	TRANSISTOR-RESISTOR	1	
QR6011		XN1217	TRANSISTOR-RESISTOR	1	
QR6014		XN1217	TRANSISTOR-RESISTOR	1	
QR6017		GN1A4M	TRANSISTOR-RESISTOR	1	
QR6019		FMA1	TRANSISTOR-RESISTOR	1	
QR6020		FMG2	TRANSISTOR-RESISTOR	1	
QR6022		GN1L4M	TRANSISTOR-RESISTOR	1	
QR6027		GA1L4M	TRANSISTOR-RESISTOR	1	
QR6029,30		GA1L4M	TRANSISTOR-RESISTOR	2	
QR6031-33		FMA2	TRANSISTOR-RESISTOR	3	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
QR6034		GN1L4M	TRANSISTOR-RESISTOR	1	
QR6035		UN4213	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R1001		ERJ3GEYJ563	M.RESISTOR CH 3W 56K	1	
R1002		ERJ3GEYJ222	M.RESISTOR CH 3W 2.2K	1	
R1003		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	1	
R1004		ERJ3GEYJ222	M.RESISTOR CH 3W 2.2K	1	
R1005		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	1	
R1006		ERJ3GEYJ472	M.RESISTOR CH 3W 4.7K	1	
R1007		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	1	
R1008		ERJ3GEYJ334	M.RESISTOR CH 3W 330K	1	
R1009		ERJ3GEYJ154	M.RESISTOR CH 3W 150K	1	
R1010		ERJ3GEYG562	M.RESISTOR CH 3W 5.6K	1	
R1011		ERJ3GEYG512	M.RESISTOR CH 3W 5.1K	1	
R1012,13		ERJ8GCYJ122	M.RESISTOR CH 1/8W 1.2K	2	
R1014,15		ERJ8GCYJ152	M.RESISTOR CH 1/8W 1.5K	2	
R1016,17		ERJ3GEYG512	M.RESISTOR CH 3W 5.1K	2	
R1018		ERJ8GCYJ122	M.RESISTOR CH 1/8W 1.2K	1	
R1019		ERJ8GCYJ821	M.RESISTOR CH 1/8W 820	1	
R1020,21		ERJ3GEYJ183	M.RESISTOR CH 3W 18K	2	
R1022,23		ERJ3GEYJ681	M.RESISTOR CH 3W 680	2	
R1024		ERJ3GEYJ153	M.RESISTOR CH 3W 15K	1	
R1025		ERJ3GEYJ562	M.RESISTOR CH 3W 5.6K	1	
R1026-31		ERJ3GEYJ391	M.RESISTOR CH 3W 390	6	
R1032		ERJ3GEYJ821	M.RESISTOR CH 3W 820	1	
R1033		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R1034		ERJ3GEYJ562	M.RESISTOR CH 3W 5.6K	1	
R1035		ERJ3GEYJ105	M.RESISTOR CH 3W 1M	1	
R1036		ERJ3GEYJ222	M.RESISTOR CH 3W 2.2K	1	
R1037		ERJ3GEYJ272	M.RESISTOR CH 3W 2.7K	1	
R1038		ERJ3GEYJ472	M.RESISTOR CH 3W 4.7K	1	
R1039		ERJ3GEYJ272	M.RESISTOR CH 3W 2.7K	1	
R1041		ERJ3GEYJ330	M.RESISTOR CH 3W 33	1	
R1042		ERJ3GEYJ683	M.RESISTOR CH 3W 68K	1	
R1043		ERJ3GEYJ123	M.RESISTOR CH 3W 12K	1	
R1044		ERJ8GCYJ560	M.RESISTOR CH 1/8W 56	1	
R1045		ERJ3GEYJ104	M.RESISTOR CH 3W 100K	1	
R1046		ERJ3GEYJ684	M.RESISTOR CH 3W 680K	1	
R1047		ERJ3GEYJ104	M.RESISTOR CH 3W 100K	1	
R1048		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R1051		ERJ3GEYJ681	M.RESISTOR CH 3W 680	1	
R1052-54		ERJ3GEYJ105	M.RESISTOR CH 3W 1M	3	
R1055		ERJ3GEYJ474	M.RESISTOR CH 3W 470K	1	
R1056		ERJ3GEYJ105	M.RESISTOR CH 3W 1M	1	
R1057		ERJ3GEYJ184	M.RESISTOR CH 3W 180K	1	
R1058		ERJ3GEYJ681	M.RESISTOR CH 3W 680	1	
R1071		VSF0059	FUSE	1	
R1072-75		VSF0015A10	FUSE	4	
R1076		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	1	
R1077		ERJ3GEYJ183	M.RESISTOR CH 3W 18K	1	
R2001,02		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	2	
R2003		ERJ3GEYJ272	M.RESISTOR CH 3W 2.7K	1	
R2004		ERJ3GEYJ333	M.RESISTOR CH 3W 33K	1	
R2005		ERJ3GEYJ473	M.RESISTOR CH 3W 47K	1	
R2006		ERJ3GEYJ104	M.RESISTOR CH 3W 100K	1	
R2007		ERJ3GEYJ154	M.RESISTOR CH 3W 150K	1	
R2009		ERJ3GEYJ154	M.RESISTOR CH 3W 150K	1	
R2010		ERJ3GEYJ822	M.RESISTOR CH 3W 8.2K	1	
R2011		ERJ3GEYJ563	M.RESISTOR CH 3W 56K	1	
R2012		ERJ3GEYJ274	M.RESISTOR CH 3W 270K	1	
R2013		ERJ3GEYJ154	M.RESISTOR CH 3W 150K	1	
R2014		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	1	
R2015		ERJ3GEYJ123	M.RESISTOR CH 3W 12K	1	
R2017		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	1	
R2018		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R2019		ERJ3GEYJ105	M.RESISTOR CH 3W 1M	1	
R2020		ERJ3GEYJ222	M.RESISTOR CH 3W 2.2K	1	
R2021		ERJ3GEY0R00	M.RESISTOR CH 3W 0.00	1	
R2022		ERJ3GEYJ271	M.RESISTOR CH 3W 270	1	
R2025		ERJ3GEYJ393	M.RESISTOR CH 3W 39K	1	
R2028		ERJ3GEYJ105	M.RESISTOR CH 3W 1M	1	
R2029		ERJ3GEYJ153	M.RESISTOR CH 3W 15K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R2030		ERJ3GEYJ273	M.RESISTOR CH 3W 27K	1	
R2031		ERJ3GEYJ333	M.RESISTOR CH 3W 33K	1	
R2032		ERJ3GEYJ274	M.RESISTOR CH 3W 270K	1	
R2034		ERJ3GEYJ272	M.RESISTOR CH 3W 2.7K	1	
R2038		ERDS2TJR47	C.RESISTOR 1/4W 0.47	1	
R2040		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R2041		ERJ3GEYJ332	M.RESISTOR CH 3W 3.3K	1	
R2042		ERJ3GEYJ563	M.RESISTOR CH 3W 56K	1	
R2043		ERJ3GEYJ221	M.RESISTOR CH 3W 220	1	
R2044		ERJ3GEYJ820	M.RESISTOR CH 3W 82	1	
R2045		ERJ8GCYK2R2	M.RESISTOR CH 1/8W 2.2	1	
R2046,47		ERJ8GCYJ1R8	M.RESISTOR CH 1/8W 1.8	2	
R2048		ERJ3GEYJ153	M.RESISTOR CH 3W 15K	1	
R2049-51		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	3	
R2053,54		ERJ3GEYJ682	M.RESISTOR CH 3W 6.8K	2	
R2060		ERJ3GEYJ334	M.RESISTOR CH 3W 330K	1	
R2062		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R2066		ERJ3GEYJ221	M.RESISTOR CH 3W 220	1	
R2067-69		ERJ6GMYJ150	M.RESISTOR CH 1/10W 15	3	
R2070-72		ERJ3GEYJ104	M.RESISTOR CH 3W 100K	3	
R2077		ERJ3GEYJ392	M.RESISTOR CH 3W 3.9K	1	
R2079		ERJ3GEYJ152	M.RESISTOR CH 3W 1.5K	1	
R2080		ERJ3GEY0R00	M.RESISTOR CH 3W 0.00	1	
R2085,86		ERJ3GEYJ104	M.RESISTOR CH 3W 100K	2	
R2087		ERJ3GEY0R00	M.RESISTOR CH 3W 0.00	1	
R2090		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R3801		ERJ3GEYJ471	M.RESISTOR CH 3W 470	1	
R3802		ERJ3GEYJ681	M.RESISTOR CH 3W 680	1	
R3803-05		ERJ3GEYJ472	M.RESISTOR CH 3W 4.7K	3	
R3806		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R3808		ERJ3GEYJ272	M.RESISTOR CH 3W 2.7K	1	
R3811,12		ERJ3GEYJ472	M.RESISTOR CH 3W 4.7K	2	
R3813		ERJ3GEYJ153	M.RESISTOR CH 3W 15K	1	
R3814		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	1	
R3816		ERJ3GEYJ223	M.RESISTOR CH 3W 22K	1	
R3830		ERJ3GEYJ223	M.RESISTOR CH 3W 22K	1	
R3834		ERJ3GEYG393	M.RESISTOR CH 3W 39K	1	
R3837		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	1	
R3841-44		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	4	
R3845		ERJ3GEYJ123	M.RESISTOR CH 3W 12K	1	
R3846		ERJ3GEYJ101	M.RESISTOR CH 3W 100	1	
R3848		ERJ3GEYJ681	M.RESISTOR CH 3W 680	1	
R3851		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R3858		ERJ3GEYG103	M.RESISTOR CH 3W 10K	1	
R3876		ERJ3GEYJ332	M.RESISTOR CH 3W 3.3K	1	
R3885		ERJ3GEYJ223	M.RESISTOR CH 3W 22K	1	
R3886		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	1	
R4001		ERJ3GEYJ100	M.RESISTOR CH 3W 10	1	
R4002		ERJ3GEYJ223	M.RESISTOR CH 3W 22K	1	
R4003		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	1	
R4004		ERJ3GEYJ273	M.RESISTOR CH 3W 27K	1	
R4005		ERJ3GEYJ151	M.RESISTOR CH 3W 150	1	
R4006		ERJ3GEYJ184	M.RESISTOR CH 3W 180K	1	
R4007		ERJ3GEYJ332	M.RESISTOR CH 3W 3.3K	1	
R4009		ERJ3GEYJ122	M.RESISTOR CH 3W 1.2K	1	
R4010		ERJ3GEYJ472	M.RESISTOR CH 3W 4.7K	1	
R4011		ERJ3GEYJ331	M.RESISTOR CH 3W 330	1	
R4012		ERJ3GEYJ472	M.RESISTOR CH 3W 4.7K	1	
R4013		ERJ3GEYJ153	M.RESISTOR CH 3W 15K	1	
R4014		ERJ3GEYJ122	M.RESISTOR CH 3W 1.2K	1	
R4016		ERJ3GEYJ181	M.RESISTOR CH 3W 180	1	
R4018		ERJ3GEYJ105	M.RESISTOR CH 3W 1M	1	
R4027		ERJ3GEYJ561	M.RESISTOR CH 3W 560	1	
R4044		ERJ3GEYJ104	M.RESISTOR CH 3W 100K	1	
R4049		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	1	
R4052		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R4053		ERJ3GEYJ562	M.RESISTOR CH 3W 5.6K	1	
R4054		ERJ3GEYJ331	M.RESISTOR CH 3W 330	1	
R4055,56		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	2	
R4541,42		ERJ3GEYJ472	M.RESISTOR CH 3W 4.7K	2	
R4543		ERJ3GEYJ682	M.RESISTOR CH 3W 6.8K	1	
R4544		ERJ3GEYJ152	M.RESISTOR CH 3W 1.5K	1	
R4545		ERJ3GEYJ331	M.RESISTOR CH 3W 330	1	
R4546		ERJ3GEYJ121	M.RESISTOR CH 3W 120	1	
R4547		ERJ3GEYJ390	M.RESISTOR CH 3W 39	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R4548		ERJ3GEYJ682	M.RESISTOR CH 3W 6.8K	1	
R4549		ERJ3GEYJ392	M.RESISTOR CH 3W 3.9K	1	
R4550		ERJ3GEYJ182	M.RESISTOR CH 3W 1.8K	1	
R4551,52		ERJ3GEYJ270	M.RESISTOR CH 3W 27	2	
R4562		VSF0014A08	IC PROTECTOR	1	
R4581		ERJ3GEYJ473	M.RESISTOR CH 3W 47K	1	
R4593,94		ERJ3GEYJ472	M.RESISTOR CH 3W 4.7K	2	
R4595		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R4607		ERJ3GEYJ122	M.RESISTOR CH 3W 1.2K	1	
R4608		VRE0034E273	M.RESISTOR CH 1/10W 27K	1	
R4609		VRE0034E163	M.RESISTOR CH 1/10W 16K	1	
R4613		ERJ3GEY0R00	M.RESISTOR CH 3W 0.00	1	
R4618		ERJ3GEYJ183	M.RESISTOR CH 3W 18K	1	
R4801,02		ERJ3GEYJ473	M.RESISTOR CH 3W 47K	2	
R4803-06		ERJ3GEYJ104	M.RESISTOR CH 3W 100K	4	
R4807,08		ERJ3GEYJ473	M.RESISTOR CH 3W 47K	2	
R4809,10		ERJ3GEYJ122	M.RESISTOR CH 3W 1.2K	2	
R4811,12		ERJ3GEYJ221	M.RESISTOR CH 3W 220	2	
R4813,14		ERJ3GEYJ333	M.RESISTOR CH 3W 33K	2	
R4815,16		ERJ3GEYJ222	M.RESISTOR CH 3W 2.2K	2	
R4817,18		ERJ3GEYJ332	M.RESISTOR CH 3W 3.3K	2	
R4819,20		ERJ3GEYJ473	M.RESISTOR CH 3W 47K	2	
R4821		ERJ3GEYJ221	M.RESISTOR CH 3W 220	1	
R4822		ERJ3GEYJ393	M.RESISTOR CH 3W 39K	1	
R4823		ERJ3GEY0R00	M.RESISTOR CH 3W 0.00	1	
R4824		ERJ3GEYJ334	M.RESISTOR CH 3W 330K	1	
R4825		ERJ8GCYJ221	M.RESISTOR CH 1/8W 220	1	
R4826		ERJ3GEY0R00	M.RESISTOR CH 3W 0.00	1	
R4827		ERJ3GEYJ393	M.RESISTOR CH 3W 39K	1	
R4828		ERJ3GEYJ221	M.RESISTOR CH 3W 220	1	
R4829		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	1	
R4839,40		ERJ3GEYJ221	M.RESISTOR CH 3W 220	2	
R4843,44		ERJ3GEYJ391	M.RESISTOR CH 3W 390	2	
R4845		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R4846		ERJ3GEYJ224	M.RESISTOR CH 3W 220K	1	
R4847		ERJ3GEYJ183	M.RESISTOR CH 3W 18K	1	
R4848		ERJ8GCYJ221	M.RESISTOR CH 1/8W 220	1	
R4849,50		ERJ3GEYJ224	M.RESISTOR CH 3W 220K	2	
R4853,54		ERJ3GEYJ224	M.RESISTOR CH 3W 220K	2	
R4855,56		ERJ3GEYJ562	M.RESISTOR CH 3W 5.6K	2	
R4857		ERJ3GEYJ123	M.RESISTOR CH 3W 12K	1	
R4858		ERJ3GEYJ274	M.RESISTOR CH 3W 270K	1	
R4859		ERJ3GEYJ472	M.RESISTOR CH 3W 4.7K	1	
R4861,62		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	2	
R4863,64		ERJ3GEYJ224	M.RESISTOR CH 3W 220K	2	
R4865,66		ERJ3GEYJ562	M.RESISTOR CH 3W 5.6K	2	
R4867,68		ERJ8GCYJ121	M.RESISTOR CH 1/8W 120	2	
R4869,70		ERJ3GEYJ822	M.RESISTOR CH 3W 8.2K	2	
R4871,72		ERJ3GEYJ562	M.RESISTOR CH 3W 5.6K	2	
R4873		ERJ3GEYJ124	M.RESISTOR CH 3W 120K	1	
R4876		ERJ8GCYJ101	M.RESISTOR CH 1/8W 100	1	
R4882		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R4883,84		ERJ3GEYJ124	M.RESISTOR CH 3W 120K	2	
R4885		ERJ8GCYJ560	M.RESISTOR CH 1/8W 56	1	
R4886		ERJ3GEYJ470	M.RESISTOR CH 3W 47	1	
R4887		ERJ3GEYJ471	M.RESISTOR CH 3W 470	1	
R4888,89		ERJ3GEYJ473	M.RESISTOR CH 3W 47K	2	
R5001		ERJ3GEYJ152	M.RESISTOR CH 3W 1.5K	1	
R5002		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	1	
R5003-05		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	3	
R5006		ERJ3GEYJ471	M.RESISTOR CH 3W 470	1	
R5007		ERJ3GEYJ681	M.RESISTOR CH 3W 680	1	
R5008		ERJ3GEY0R00	M.RESISTOR CH 3W 0.00	1	
R5009		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	1	
R5010		ERJ3GEYJ222	M.RESISTOR CH 3W 2.2K	1	
R5011,12		ERJ3GEYJ100	M.RESISTOR CH 3W 10	2	
R5013,14		ERJ3GEYJ222	M.RESISTOR CH 3W 2.2K	2	
R5015,16		ERJ3GEYJ100	M.RESISTOR CH 3W 10	2	
R5017,18		ERJ3GEYJ681	M.RESISTOR CH 3W 680	2	
R5019		ERJ3GEYJ222	M.RESISTOR CH 3W 2.2K	1	
R5020		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	1	
R5021-24		ERJ3GEYJ333	M.RESISTOR CH 3W 33K	4	
R5025		ERJ3GEYJ393	M.RESISTOR CH 3W 39K	1	
R5026		ERJ3GEYJ822	M.RESISTOR CH 3W 8.2K	1	
R5027		ERJ3GEYJ271	M.RESISTOR CH 3W 270	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R5028		ERJ3GEYJ391	M.RESISTOR CH 3W 390	1	
R5031-34		ERJ3GEYJ472	M.RESISTOR CH 3W 4.7K	4	
R5035-38		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	4	
R5040		ERJ8GCYJ4R7	M.RESISTOR CH 1/8W 4.7	1	
R5041,42		ERJ3GEYJ681	M.RESISTOR CH 3W 680	2	
R5043		ERJ3GEYJ684	M.RESISTOR CH 3W 680K	1	
R5044		ERJ3GEYJ222	M.RESISTOR CH 3W 2.2K	1	
R6001		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	1	
R6003		ERJ3GEYJ332	M.RESISTOR CH 3W 3.3K	1	
R6004		ERJ3GEYJ562	M.RESISTOR CH 3W 5.6K	1	
R6005-09		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	5	
R6010		ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	1	
R6011		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	1	
R6015-23		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	9	
R6025		ERJ6GMYJ391	M.RESISTOR CH 1/10W 390	1	
R6027		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	1	
R6029		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	1	
R6030,31		ERJ3GEYJ152	M.RESISTOR CH 3W 1.5K	2	
R6032-39		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	8	
R6040		ERJ3GEYJ473	M.RESISTOR CH 3W 47K	1	
R6041		ERJ3GEYJ154	M.RESISTOR CH 3W 150K	1	
R6042		ERJ3GEYJ184	M.RESISTOR CH 3W 180K	1	
R6043-45		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	3	
R6046		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	1	
R6047-50		ERJ3GEYJ473	M.RESISTOR CH 3W 47K	4	
R6051		ERJ3GEYJ184	M.RESISTOR CH 3W 180K	1	
R6052		ERJ3GEYJ393	M.RESISTOR CH 3W 39K	1	
R6053		ERJ3GEYJ392	M.RESISTOR CH 3W 3.9K	1	
R6054-56		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	3	
R6058		ERJ3GEYJ272	M.RESISTOR CH 3W 2.7K	1	
R6059,60		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	2	
R6062		ERJ3GEYJ224	M.RESISTOR CH 3W 220K	1	
R6063		ERJ3GEYJ394	M.RESISTOR CH 3W 390K	1	
R6064		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R6065		ERJ3GEYJ473	M.RESISTOR CH 3W 47K	1	
R6066		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R6067		ERJ3GEYJ563	M.RESISTOR CH 3W 56K	1	
R6068		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R6069		ERJ3GEYJ184	M.RESISTOR CH 3W 180K	1	
R6070		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R6071		ERJ3GEYJ184	M.RESISTOR CH 3W 180K	1	
R6072		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R6073		ERJ6GMYJ391	M.RESISTOR CH 1/10W 390	1	
R6074,75		ERJ8GCYJ331	M.RESISTOR CH 1/8W 330	2	
R6076		ERJ8GCYJ271	M.RESISTOR CH 1/8W 270	1	
R6077-79		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	3	
R6080		ERJ6GMYJ391	M.RESISTOR CH 1/10W 390	1	
R6081		ERJ3GEYJ154	M.RESISTOR CH 3W 150K	1	
R6083		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R6084-87		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	4	
R6088		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R6089		ERJ3GEYJ332	M.RESISTOR CH 3W 3.3K	1	
R6090		ERJ3GEYJ104	M.RESISTOR CH 3W 100K	1	
R6091		ERJ3GEYJ105	M.RESISTOR CH 3W 1M	1	
R6092		ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	1	
R6093		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R6094		ERJ8GCYJ101	M.RESISTOR CH 1/8W 100	1	
R6095,96		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	2	
R6097		ERJ8GCYJ101	M.RESISTOR CH 1/8W 100	1	
R6098-03		ERJ6GMYJ391	M.RESISTOR CH 1/10W 390	6	
R6104		ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	1	
R6105		ERJ6GMYJ391	M.RESISTOR CH 1/10W 390	1	
R6106		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	1	
R6107		ERJ3GEYJ472	M.RESISTOR CH 3W 4.7K	1	
R6108		ERJ3GEYJ683	M.RESISTOR CH 3W 68K	1	
R6109		ERJ3GEYJ273	M.RESISTOR CH 3W 27K	1	
R6110-12		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	3	
R6113		ERDS2TJ223	C.RESISTOR 1/4W 22K	1	
R6116		ERJ3GEYJ473	M.RESISTOR CH 3W 47K	1	
R6300		ERJ3GEYJ222	M.RESISTOR CH 3W 2.2K	1	
S6001		ESD142127	SWITCH	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
T1001		ELL10R010	TRANSFORMER	1	
T4001		EIQ7QE007Q	TRANSFORMER	1	
VR1001		EVM7JSX30B53	V.RESISTOR 5K	1	
VR1002		EVM7JSX30B23	V.RESISTOR 2K	1	
VR1003		EVM7JSX30B53	V.RESISTOR 5K	1	
VR2001		EVM7JSX30B15	V.RESISTOR 100K	1	
VR4001		EVM7JSX30B23	V.RESISTOR 2K	1	
VR4503		EVM7JSX30B23	V.RESISTOR 2K	1	
VR6001		EVM7JSX30B15	V.RESISTOR 100K	1	
X1001		VSX0136	CRYSTAL OSCILLATOR	1	
X6001		VSX0299	CRYSTAL OSCILLATOR	1	
X6002		VSX0249	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VSC1932	POWER SHIELD (TOP)	1	
		VSC1358	POWER SHIELD (BOTTOM)	1	
		VMZ0651	POWER SHIELD BARRIER	1	
		VSC3013	HEAD AMP SHIELD (TOP)	1	
		VSC3032	HEAD AMP SHIELD (BOTTOM)	1	
		VMX1563	FIXING HINGE	2	(LUMI. & CHRO. PACK)
		VWJ0423	FLEXIBLE CABLE	1	
	■	VEP03676C	LUMINANCE & CHROMINANCE		(NLA)
			C.B.A.		
			CAPACITORS		
C3001,02		ECEA0JSJ151	E.CAPACITOR 6.3V 150U	2	
C3003		ECEA1CSN4R7	E.CAPACITOR 16V 4.7U	1	
C3004		ECST1VY104Z	T.CAPACITOR 35V 0.1U	1	
C3005		ECEA1CKK100	E.CAPACITOR 16V 10U	1	
C3006		ECUM1H330JCV	C.CAPACITOR CH 50V 33P	1	
C3007		ECUM1H220JCV	C.CAPACITOR CH 50V 22P	1	
C3008		ECUM1H150JCV	C.CAPACITOR CH 50V 15P	1	
C3009,10		ECEA1EKK4R7	E.CAPACITOR 25V 4.7U	2	
C3011		ECUM1H820JCV	C.CAPACITOR CH 50V 82P	1	
C3012		ECUM1H560JCV	C.CAPACITOR CH 50V 56P	1	
C3013		ECUM1H220JCV	C.CAPACITOR CH 50V 22P	1	
C3015		ECEA1EKK2R2	E.CAPACITOR 25V 2.2U	1	
C3016		ECUM1H820JCV	C.CAPACITOR CH 50V 82P	1	
C3017		ECEA1EKK2R2	E.CAPACITOR 25V 2.2U	1	
C3019		ECEA1EKK4R7	E.CAPACITOR 25V 4.7U	1	
C3020		ECEA0JKS101	E.CAPACITOR 6.3V 100U	1	
C3021		ECSF1CE106	T.CAPACITOR 16V 10U	1	
C3022,23		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C3024		ECUM1H150JCV	C.CAPACITOR CH 50V 15P	1	
C3025		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3026		ECUM1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C3027		ECEA1EKK4R7	E.CAPACITOR 25V 4.7U	1	
C3030		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3031		ECEA1CKK100	E.CAPACITOR 16V 10U	1	
C3032		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3033		ECEA1EKK4R7	E.CAPACITOR 25V 4.7U	1	
C3034		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3035		ECEA1HKK010	E.CAPACITOR 50V 1U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C3036		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C3037		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3038		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3039		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3040		ECEA1CKK100	E.CAPACITOR 16V 10U	1	
C3041-43		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	3	
C3044		ECEA0GKS221	E.CAPACITOR 220U	1	
C3045		ECEA1HKK010	E.CAPACITOR 50V 1U	1	
C3047		ECUX1H391KBN	C.CAPACITOR CH 50V 390P	1	
C3048		ECUM1H220JCV	C.CAPACITOR CH 50V 22P	1	
C3049		ECUM1H820JCV	C.CAPACITOR CH 50V 82P	1	
C3050		ECUM1H390JCV	C.CAPACITOR CH 50V 39P	1	
C3051		ECUM1H560JCV	C.CAPACITOR CH 50V 56P	1	
C3053		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3054		ECEA0JKS101	E.CAPACITOR 6.3V 100U	1	
C3055		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3056		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C3057		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3059		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3061		ECUM1H330JCV	C.CAPACITOR CH 50V 33P	1	
C3065		ECUM1H120JCV	C.CAPACITOR CH 50V 12P	1	
C3066		ECUM1H820JCV	C.CAPACITOR CH 50V 82P	1	
C3067		ECUM1H331KBV	C.CAPACITOR CH 50V 330P	1	
C3068		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3069		ECUM1H101JCV	C.CAPACITOR CH 50V 100P	1	
C3070		ECEA1CKK100	E.CAPACITOR 16V 10U	1	
C3071		ECEA0GKS221	E.CAPACITOR 220U	1	
C3073		ECUM1H471JV	C.CAPACITOR CH 50V 470P	1	
C3075		ECUM1H470JCV	C.CAPACITOR CH 50V 47P	1	
C3076		ECUM1H270JCV	C.CAPACITOR CH 50V 27P	1	
C3150		ECUM1H151JV	C.CAPACITOR CH 50V 150P	1	
C8001		ECEA1CKK100	E.CAPACITOR 16V 10U	1	
C8002		ECUM1E223ZFV	C.CAPACITOR CH 25V 0.022U	1	
C8003		ECUM1H271KBV	C.CAPACITOR CH 50V 270P	1	
C8004		ECUM1H471KBV	C.CAPACITOR CH 50V 470P	1	
C8005		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C8006-18		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	13	
C8019		ECEA1EKK4R7	E.CAPACITOR 25V 4.7U	1	
C8020		ECEA1EKK2R2	E.CAPACITOR 25V 2.2U	1	
C8021		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C8022		ECEA1EKK3R3	E.CAPACITOR 25V 3.3U	1	
C8023,24		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C8025		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C8026		ECUM1H030CCV	C.CAPACITOR CH 50V 3P	1	
C8027		ECUM1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C8028		ECEA0JSJ151	E.CAPACITOR 6.3V 150U	1	
C8029		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C8030		ECUM1H101JCV	C.CAPACITOR CH 50V 100P	1	
C8031-35		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	5	
C8036		ECUM1C474ZFM	C.CAPACITOR CH 16V 0.47U	1	
C8037		ECUM1H680JCV	C.CAPACITOR CH 50V 68P	1	
C8038		ECUM1H332KBV	C.CAPACITOR CH 50V 3300P	1	
C8039		ECEA1HKK0R1	E.CAPACITOR 50V 0.1U	1	
C8043		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C8045		ECUM1H390JCV	C.CAPACITOR CH 50V 39P	1	
C8047,48		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C8049		ECEA0JKS220	E.CAPACITOR 6.3V 22U	1	
C8050		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C8053		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
D3003,04		MA141K	DIODE	2	
D3005		MA165	DIODE	1	
DL8001		VLD0174	DELAY	1	
FL3001		ELB4C014	FILTER	1	
FL3002		VLF0806	FILTER	1	
FL3003		ELB4A020	FILTER	1	
FL8001		ELB4B010	FILTER	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
FL8002		ELB4B048	FILTER	1	
FL8003		VLF0769	FILTER	1	
FL8008		ELB4B024	FILTER	1	
FL8009		VLF0750	FILTER	1	
IC3001		VEFH08D	IC	1	
IC3002		MST001MS	IC	1	
IC3003		AN3580SB	IC	1	
IC3004		TL8809F	IC	1	
IC8001		M52059AFP	IC	1	
L3001,02		VLQEL05F101K	COIL 100H	2	
L3003		VLQEL04F180K	COIL 18H	1	
L3004		VLQEL04F121K	COIL 120H	1	
L3005		VLQEL04F101K	COIL 100H	1	
L3007		VLQEL05F101K	COIL 100H	1	
L3008		VLQEL04F101K	COIL 100H	1	
L3009		VLQEL05F101K	COIL 100H	1	
L3010		VLQEL04F330K	COIL 33H	1	
L3011		VLQEL04F151K	COIL 150H	1	
L3012		VLQEL04F150K	COIL 15H	1	
L3013		VLQEL05F101K	COIL 100H	1	
L3015		VLQEL04F470K	COIL 47H	1	
L3016		VLQEL04F181K	COIL 180H	1	
L3017		VLQEL04F100K	COIL 10H	1	
L3018		VLQEL04F221K	COIL 220H	1	
L3020		VEQEL04F470K	COIL 47H	1	
L8002		VLQEL04F101K	COIL 100H	1	
L8003		VLQEL05F331K	COIL 330H	1	
L8012		VLQEL05F101K	COIL 100H	1	
L8013		VLQEL04F150K	COIL 15H	1	
L8014		VLQEL05F681K	COIL 680H	1	
L8015		VLQEL04F121K	COIL 120H	1	
L8016		VLQEL05F101K	COIL 100H	1	
L8017		VLQEL04F101K	COIL 100H	1	
L8018		VLQEL05F101K	COIL 100H	1	
P3001		VJS2237	CONNECTOR	1	
P3002		VJP2263	CONNECTOR	1	
Q3001		2SD1819	TRANSISTOR	1	
Q3002		2SC3931	TRANSISTOR	1	
Q3003		2SD1819	TRANSISTOR	1	
Q3005,06		2SD1819	TRANSISTOR	2	
Q3007		2SC3931	TRANSISTOR	1	
Q3008		2SD1819	TRANSISTOR	1	
Q3010		2SD1819	TRANSISTOR	1	
Q3012		2SC3931	TRANSISTOR	1	
Q3013,14		2SB1218	TRANSISTOR	2	
Q3015		2SC3931	TRANSISTOR	1	
Q3020,21		2SD1819	TRANSISTOR	2	
QR3001		GA1F4M	TRANSISTOR-RESISTOR	1	
QR3006		GA1L4M	TRANSISTOR-RESISTOR	1	
QR3008		GA1F4M	TRANSISTOR-RESISTOR	1	
QR8001		FMG1	TRANSISTOR-RESISTOR	1	
QR8004,05		GA1F4M	TRANSISTOR-RESISTOR	2	
QR8006		FMW1	TRANSISTOR-RESISTOR	1	
QR8007		FMG2	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R3001,02		ERJ3GEYJ561	M.RESISTOR CH 3W 560	2	
R3003,04		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R3005		ERJ3GEYJ272	M.RESISTOR CH 3W 2.7K	1	
R3006		ERJ3GEYJ182	M.RESISTOR CH 3W 1.8K	1	
R3007		ERJ3GEYJ561	M.RESISTOR CH 3W 560	1	
R3008		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R3010		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R3011		ERJ3GEYJ821	M.RESISTOR CH 3W 820	1	
R3012		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R3013,14		ERJ3GEYJ273	M.RESISTOR CH 3W 27K	2	
R3015		ERJ3GEYJ821	M.RESISTOR CH 3W 820	1	
R3016,17		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	2	
R3019		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R3021		ERJ3GEYJ152	M.RESISTOR CH 3W 1.5K	1	
R3022		ERJ3GEY0R00	M.RESISTOR CH 3W 0.00	1	
R3023,24		ERJ3GEYJ223	M.RESISTOR CH 3W 22K	2	
R3025		ERJ3GEYJ181	M.RESISTOR CH 3W 180	1	
R3026		ERJ3GEYJ101	M.RESISTOR CH 3W 100	1	
R3028		ERJ3GEYJ682	M.RESISTOR CH 3W 6.8K	1	
R3029		ERJ3GEYJ123	M.RESISTOR CH 3W 12K	1	
R3030		ERJ3GEYJ391	M.RESISTOR CH 3W 390	1	
R3031		ERJ3GEYJ123	M.RESISTOR CH 3W 12K	1	
R3032		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R3033		ERJ3GEYJ471	M.RESISTOR CH 3W 470	1	
R3034		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R3035		ERJ3GEYJ750	M.RESISTOR CH 3W 75	1	
R3036,37		ERJ3GEYJ223	M.RESISTOR CH 3W 22K	2	
R3039		ERJ3GEYJ331	M.RESISTOR CH 3W 330	1	
R3040		ERJ3GEYJ471	M.RESISTOR CH 3W 470	1	
R3041		ERJ3GEYJ821	M.RESISTOR CH 3W 820	1	
R3042		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3043		ERJ3GEYJ271	M.RESISTOR CH 3W 270	1	
R3044		ERJ3GEYJ680	M.RESISTOR CH 3W 68	1	
R3045,46		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	2	
R3049,50		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	2	
R3052		ERJ3GEYJ333	M.RESISTOR CH 3W 33K	1	
R3053		ERJ3GEYJ153	M.RESISTOR CH 3W 15K	1	
R3054		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R3059		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R3062		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	1	
R3063		ERJ3GEYJ562	M.RESISTOR CH 3W 5.6K	1	
R3068,69		ERJ3GEYJ822	M.RESISTOR CH 3W 8.2K	2	
R3071		ERJ3GEYJ392	M.RESISTOR CH 3W 3.9K	1	
R3072		ERJ3GEYJ561	M.RESISTOR CH 3W 560	1	
R3073		ERJ3GEYJ101	M.RESISTOR CH 3W 100	1	
R3074		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R3075		ERJ3GEYJ681	M.RESISTOR CH 3W 680	1	
R3076		ERJ3GEYJ391	M.RESISTOR CH 3W 390	1	
R3077		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R3080		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R3081		ERJ3GEYJ561	M.RESISTOR CH 3W 560	1	
R3082		ERJ3GEYJ122	M.RESISTOR CH 3W 1.2K	1	
R3083		ERJ3GEYJ272	M.RESISTOR CH 3W 2.7K	1	
R3084		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	1	
R3085		ERJ3GEYJ122	M.RESISTOR CH 3W 1.2K	1	
R3086		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R3087		ERJ3GEYJ104	M.RESISTOR CH 3W 100K	1	
R3088		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R3089		ERJ3GEY0R00	M.RESISTOR CH 3W 0.00	1	
R3091		ERJ3GEYJ222	M.RESISTOR CH 3W 2.2K	1	
R3092		ERJ3GEY0R00	M.RESISTOR CH 3W 0.00	1	
R3093		ERJ3GEYJ101	M.RESISTOR CH 3W 100	1	
R3094		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R3095		ERDS2TJ105	C.RESISTOR 1/4W 1000K	1	
R8001-03		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	3	
R8004		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	1	
R8005		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R8006		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	1	
R8007		ERJ6GMYJ225	M.RESISTOR CH 1/10W 2.2M	1	
R8008		ERJ3GEYJ271	M.RESISTOR CH 3W 270	1	
R8009		ERJ3GEYJ122	M.RESISTOR CH 3W 1.2K	1	
R8010		ERJ3GEYJ821	M.RESISTOR CH 3W 820	1	
R8011		ERJ3GEYJ472	M.RESISTOR CH 3W 4.7K	1	
R8012		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R8013		ERJ3GEYJ563	M.RESISTOR CH 3W 56K	1	
R8014		ERJ3GEYJ222	M.RESISTOR CH 3W 2.2K	1	
R8015		ERJ3GEYJ182	M.RESISTOR CH 3W 1.8K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R8017		ERJ3GEYJ822	M.RESISTOR CH 3W 8.2K	1	
R8018		ERJ3GEYJ153	M.RESISTOR CH 3W 15K	1	
R8020		ERJ3GEYJ182	M.RESISTOR CH 3W 1.8K	1	
R8025,26		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	2	
R8027		ERJ3GEYJ433	M.RESISTOR CH 3W 43K	1	
R8028		ERJ3GEYJ182	M.RESISTOR CH 3W 1.8K	1	
R8029		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R8101		ERJ3GEYJ223	M.RESISTOR CH 3W 22K	1	
R8103		ERJ3GEYJ473	M.RESISTOR CH 3W 47K	1	
R8105		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R8106		ERJ3GEYJ272	M.RESISTOR CH 3W 2.7K	1	
R8107,08		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	2	
R8109		ERJ3GEYJ272	M.RESISTOR CH 3W 2.7K	1	
R8110		ERJ3GEYJ182	M.RESISTOR CH 3W 1.8K	1	
R8111		ERJ3GEYJ223	M.RESISTOR CH 3W 22K	1	
R8112		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R8113		ERJ3GEYJ182	M.RESISTOR CH 3W 1.8K	1	
R8116		ERJ3GEYJ473	M.RESISTOR CH 3W 47K	1	
R8133		ERJ3GEY0R00	M.RESISTOR CH 3W 0.00	1	
VR3001,02		EVM7JSX30B23	V.RESISTOR 2K	2	
VR3003		EVM7JSX30B52	V.RESISTOR 500	1	
VR3004		EVM7JSX30B54	V.RESISTOR 50K	1	
VR3005		EVM7JSX30B52	V.RESISTOR 500	1	
VR8001		EVM7JSX30B13	V.RESISTOR 1K	1	
VR8007		EVM7JSX30B24	V.RESISTOR 20K	1	
X8001		VSX0188	CRYSTAL OSCILLATOR	1	
	■	VEP04280A	Hi-Fi AUDIO C.B.A.		(NLA)
			CAPACITORS		
C4501		ECEA1CKA101	E.CAPACITOR 16V 100U	1	
C4502,03		ECEA1VKG6R8	E.CAPACITOR 35V 6.8U	2	
C4504		ECUM1E223KBN	C.CAPACITOR CH 25V 0.023U	1	
C4505		ECEA1EKK4R7	E.CAPACITOR 25V 4.7U	1	
C4506		ECUM1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C4507		ECEA0JSN470	E.CAPACITOR 6.3V 47U	1	
C4508		ECEA1CSN220	E.CAPACITOR 16V 22U	1	
C4509		ECUM1E103KBN	C.CAPACITOR CH 25V 0.01U	1	
C4510		ECEA1VSN2R2	E.CAPACITOR 35V 2.2U	1	
C4511		ECEA1CKK100	E.CAPACITOR 16V 10U	1	
C4512		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C4513		ECEA1CKK100	E.CAPACITOR 16V 10U	1	
C4514		ECEA1EKK4R7	E.CAPACITOR 25V 4.7U	1	
C4515		ECEA1CKK100	E.CAPACITOR 16V 10U	1	
C4516		ECEA1ASN100	E.CAPACITOR 10V 10U	1	
C4517		ECEA1CKS470	E.CAPACITOR 16V 47U	1	
C4518		ECEA1EKK2R2	E.CAPACITOR 25V 2.2U	1	
C4519		ECEA1HKK010	E.CAPACITOR 50V 1U	1	
C4520		ECEA1CSN100	E.CAPACITOR 16V 10U	1	
C4521		ECEA1CKK100	E.CAPACITOR 16V 10U	1	
C4522		ECEA1EKK4R7	E.CAPACITOR 25V 4.7U	1	
C4523		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C4524		ECEA1CSE680	E.CAPACITOR 16V 68U	1	
C4525		ECEA1VSN2R2	E.CAPACITOR 35V 2.2U	1	
C4526		ECUM1E103KBN	C.CAPACITOR CH 25V 0.01U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C4527		ECEA1CSN220	E.CAPACITOR 16V 22U	1	
C4528		ECEA0JSN470	E.CAPACITOR 6.3V 47U	1	
C4529		ECUM1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C4530		ECEA1EKK4R7	E.CAPACITOR 25V 4.7U	1	
C4531		ECUM1E223KBN	C.CAPACITOR CH 25V 0.023U	1	
C4532,33		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C4534		ECEA1HKK010	E.CAPACITOR 50V 1U	1	
C4535		ECUM1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C4536		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C4537,38		ECEA1EKK4R7	E.CAPACITOR 25V 4.7U	2	
C4539-41		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	3	
C4542		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C4543		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C4544,45		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C4546		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C4547		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C4548		ECUM1H271JV	C.CAPACITOR CH 50V 270P	1	
C4549,50		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C4551,52		ECEA1EKK4R7	E.CAPACITOR 25V 4.7U	2	
C4553		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C4554		ECUM1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C4555		ECEA1HKK010	E.CAPACITOR 50V 1U	1	
C4556		ECUM1H471KBV	C.CAPACITOR CH 50V 470P	1	
C4557,58		ECEA1CKK100	E.CAPACITOR 16V 10U	2	
C4559		ECQV1H473JZ	P.CAPACITOR 50V 0.047U	1	
C4580		ECEA1CKS470	E.CAPACITOR 16V 47U	1	
C4581		ECEA1EKK3R3	E.CAPACITOR 25V 3.3U	1	
C4582		ECEA1EKK2R2	E.CAPACITOR 25V 2.2U	1	
C4583		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C4584		ECEA1ASE101	E.CAPACITOR 10V 100U	1	
C4589		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C4592		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C4594		ECUM1H472KBV	C.CAPACITOR CH 50V 4700P	1	
C4595		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C4596		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C4597		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C4598		ECEA1CKK100	E.CAPACITOR 16V 10U	1	
C4599		ECUM1H272KBV	C.CAPACITOR CH 50V 2700U	1	
C4600		ECUM1H272KBV	C.CAPACITOR CH 50V 2700U	1	
D4501		MA141WA	DIODE	1	
D4502-06		MA141K	DIODE	5	
D4508		MA141WA	DIODE	1	
D4510		MA141K	DIODE	1	
D4511		MA143	DIODE	1	
D4512		MA141WK	DIODE	1	
FL4501		VLF0736	FILTER	1	
FL4502		VLF0735	FILTER	1	
IC4501		AN3972FB	IC	1	
IC4502		AN3932S	IC	1	
IC4503		AN3799S	IC	1	
IC4504		M5201FP	IC	1	
L4501		VLQEL05F101K	COIL 100UH	1	
L4504,05		VLQEL05F101K	COIL 100UH	2	
L4506		ELC06D005	COIL	1	
L4508		VLQEL05F101K	COIL 100UH	1	
P4502		VJS2119	CONNECTOR	1	
P4503		VJS2136	CONNECTOR(FEMALE)	1	
P4506		VJP1600T	CONNECTOR(MALE) 7P	1	
P4510		VJP1603T	CONNECTOR(MALE) 10P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
Q4501		2SD1328	TRANSISTOR CHIP	1	
Q4502		2SB1218	TRANSISTOR	1	
Q4503		2SD1328	TRANSISTOR CHIP	1	
Q4504		2SB1218	TRANSISTOR	1	
Q4505,06		2SD1819	TRANSISTOR	2	
Q4519		2SD601	TRANSISTOR CHIP	1	
Q4520		2SB1218	TRANSISTOR	1	
Q4521		2SB956	TRANSISTOR	1	
Q4527,28		2SD1819	TRANSISTOR	2	
QR4501		GA1L4L	TRANSISTOR-RESISTOR	1	
QR4503		GA1L4L	TRANSISTOR-RESISTOR	1	
QR4504		FMW1	TRANSISTOR-RESISTOR	1	
QR4509		GA1L4L	TRANSISTOR-RESISTOR	1	
QR4510		GA1L4M	TRANSISTOR-RESISTOR	1	
QR4513		GA1L4M	TRANSISTOR-RESISTOR	1	
QR4517		GA1L4M	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R4501		ERJ3GEYJ333	M.RESISTOR CH 3W 33K	1	
R4502		ERJ3GEYJ561	M.RESISTOR CH 3W 560	1	
R4503		ERJ3GEYJ473	M.RESISTOR CH 3W 47K	1	
R4504,05		ERJ3GEYJ333	M.RESISTOR CH 3W 33K	2	
R4506		ERJ3GEYJ105	M.RESISTOR CH 3W 1M	1	
R4507,08		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	2	
R4509		ERJ3GEYJ681	M.RESISTOR CH 3W 680	1	
R4510		ERJ8GCYG103	M.RESISTOR CH 1/8W 10K	1	
R4511		ERJ3GEYJ222	M.RESISTOR CH 3W 2.2K	1	
R4512		ERJ3GEYJ152	M.RESISTOR CH 3W 1.5K	1	
R4513		ERJ3GEYJ473	M.RESISTOR CH 3W 47K	1	
R4514		ERJ3GEYJ823	M.RESISTOR CH 3W 82K	1	
R4515,16		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	2	
R4517		ERJ3GEYJ273	M.RESISTOR CH 3W 27K	1	
R4518		ERJ3GEYJ682	M.RESISTOR CH 3W 6.8K	1	
R4519		ERJ3GEYJ152	M.RESISTOR CH 3W 1.5K	1	
R4520		ERJ3GEYJ222	M.RESISTOR CH 3W 2.2K	1	
R4521		ERJ8GCYG123	M.RESISTOR CH 1/8W 12K	1	
R4522		ERJ3GEYJ272	M.RESISTOR CH 3W 2.7K	1	
R4523		ERJ3GEYJ563	M.RESISTOR CH 3W 56K	1	
R4524		ERJ3GEY0R00	M.RESISTOR CH 3W 0.00	1	
R4525		ERJ3GEYJ104	M.RESISTOR CH 3W 100K	1	
R4526		ERJ3GEYJ222	M.RESISTOR CH 3W 2.2K	1	
R4527		ERJ3GEYJ104	M.RESISTOR CH 3W 100K	1	
R4529		ERJ3GEYJ105	M.RESISTOR CH 3W 1M	1	
R4530		ERJ3GEYJ333	M.RESISTOR CH 3W 33K	1	
R4533		ERJ3GEYJ393	M.RESISTOR CH 3W 39K	1	
R4535		ERJ3GEYJ474	M.RESISTOR CH 3W 470K	1	
R4536,37		ERJ3GEYJ104	M.RESISTOR CH 3W 100K	2	
R4538		ERJ3GEYJ474	M.RESISTOR CH 3W 470K	1	
R4540		ERJ3GEYJ393	M.RESISTOR CH 3W 39K	1	
R4553,54		ERJ3GEYJ123	M.RESISTOR CH 3W 12K	2	
R4557,58		ERJ3GEYJ272	M.RESISTOR CH 3W 2.7K	2	
R4559,60		ERJ3GEYJ332	M.RESISTOR CH 3W 3.3K	2	
R4563		VSF0014A08	IC PROTECTOR	1	
R4564		ERJ3GEYJ123	M.RESISTOR CH 3W 12K	1	
R4578		ERJ3GEYJ681	M.RESISTOR CH 3W 680	1	
R4579		ERJ3GEYJ682	M.RESISTOR CH 3W 6.8K	1	
R4583		ERJ3GEYJ562	M.RESISTOR CH 3W 5.6K	1	
R4587		ERJ3GEYJ564	M.RESISTOR CH 3W 560K	1	
R4588		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R4589		ERJ3GEYJ122	M.RESISTOR CH 3W 1.2K	1	
R4590		VRE0034E163	M.RESISTOR CH 1/10W 16K	1	
R4591		VRE0034E273	M.RESISTOR CH 1/10W 27K	1	
R4592		ERJ3GEYJ682	M.RESISTOR CH 3W 6.8K	1	
R4596		ERJ3GEYJ563	M.RESISTOR CH 3W 56K	1	
R4597,98		ERJ3GEYJ272	M.RESISTOR CH 3W 2.7K	2	
R4599		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	1	
R4600		ERJ3GEYJ124	M.RESISTOR CH 3W 120K	1	
R4602		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R4603		ERJ3GEY0R00	M.RESISTOR CH 3W 0.00	1	
R4605		ERJ3GEYJ392	M.RESISTOR CH 3W 3.9K	1	
R4610		ERJ3GEYJ391	M.RESISTOR CH 3W 390	1	
R4611		ERJ3GEYJ272	M.RESISTOR CH 3W 2.7K	1	
R4614,15		ERJ3GEYJ822	M.RESISTOR CH 3W 8.2K	2	
R4616,17		ERJ3GEYJ123	M.RESISTOR CH 3W 12K	2	
R4620		ERJ3GEY0R00	M.RESISTOR CH 3W 0.00	1	
R4621,22		ERJ3GEYJ822	M.RESISTOR CH 3W 8.2K	2	
R4623,24		ERJ3GEYJ154	M.RESISTOR CH 3W 150K	2	
R4625		ERJ3GEYJ273	M.RESISTOR CH 3W 27K	1	
R4626-28		ERJ3GEYJ473	M.RESISTOR CH 3W 47K	3	
R4629,30		ERJ3GEYJ184	M.RESISTOR CH 3W 180K	2	
R4697		ERJ3GEYJ561	M.RESISTOR CH 3W 560	1	
R4698		ERJ3GEYJ473	M.RESISTOR CH 3W 47K	1	
R4699		ERJ3GEYJ562	M.RESISTOR CH 3W 5.6K	1	
R4700		ERJ3GEYJ333	M.RESISTOR CH 3W 33K	1	
R4701		ERJ3GEYJ104	M.RESISTOR CH 3W 100K	1	
VR4501,02		EVM7NSX00B14	V.RESISTOR 10K	2	
VR4504		EVM7NSX00B24	V.RESISTOR 20K	1	
VR4505		EVM7NSX00B54	V.RESISTOR 50K	1	
VR4507		EVM7NSX00B14	V.RESISTOR 10K	1	
VR4508		EVM7NSX00B24	V.RESISTOR 20K	1	
VR4509		EVM7NSX00B53	V.RESISTOR 5K	1	
VR4510		EVM7NSX00B15	V.RESISTOR 100K	1	
	■	VEP05133B	Hi-Fi HEAD AMP C.B.A.		(NLA)
			CAPACITORS		
C5501		ECUM1C1052FM	C.CAPACITOR CH 16V 1U	1	
C5502		ECUM1E473ZFN	C.CAPACITOR CH 25V 0.047U	1	
C5503		ECUM1C1052FM	C.CAPACITOR CH 16V 1U	1	
C5504		ECUM1E473ZFN	C.CAPACITOR CH 25V 0.047U	1	
C5505		ECUM1C1052FM	C.CAPACITOR CH 16V 1U	1	
C5506		ECUM1E473ZFN	C.CAPACITOR CH 25V 0.047U	1	
C5507		ECUM1C1052FM	C.CAPACITOR CH 16V 1U	1	
C5508		ECUM1E473ZFN	C.CAPACITOR CH 25V 0.047U	1	
C5509		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C5510		ECUM1E103KBV	C.CAPACITOR CH 25V 0.01U	1	
C5512		ECUM1H182KBV	C.CAPACITOR CH 50V 1800P	1	
C5513		ECUM1E103KBV	C.CAPACITOR CH 25V 0.01U	1	
C5514		ECUM1H182KBV	C.CAPACITOR CH 50V 1800P	1	
C5515		ECUM1E103KBV	C.CAPACITOR CH 25V 0.01U	1	
C5518		ECUM1H182KBV	C.CAPACITOR CH 50V 1800P	1	
C5519		ECUM1E103KBV	C.CAPACITOR CH 25V 0.01U	1	
C5520		ECUM1H182KBV	C.CAPACITOR CH 50V 1800P	1	
C5521		ECUM1E103KBV	C.CAPACITOR CH 25V 0.01U	1	
C5526-29		ECUM1E223ZFV	C.CAPACITOR CH 25V 0.022U	4	
C5530-33		ECUM1E473ZFN	C.CAPACITOR CH 25V 0.047U	4	
IC5501		AN3311S	IC	1	
L5501		VLQEL04F101K	COIL 100H	1	
P5501		VJS2117	CONNECTOR	1	
P5502		VJS2118	CONNECTOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
P5503		VJP2271	CONNECTOR(MALE)	1	
Q5501		XN6401	TRANSISTOR-RESISTOR	1	
Q5502-05		2SD1328	TRANSISTOR CHIP	4	
Q5506		XN6401	TRANSISTOR-RESISTOR	1	
Q5507-10		2SD1328	TRANSISTOR CHIP	4	
QR5501,02		FMG1	TRANSISTOR-RESISTOR	2	
QR5504,05		FMA2	TRANSISTOR-RESISTOR	2	
			RESISTORS		
R5501		ERJ3GEYJ152	M.RESISTOR CH 3W 1.5K	1	
R5502		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R5503		ERJ3GEYJ272	M.RESISTOR CH 3W 2.7K	1	
R5504		ERJ3GEYJ822	M.RESISTOR CH 3W 8.2K	1	
R5505		ERJ3GEYJ332	M.RESISTOR CH 3W 3.3K	1	
R5506		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	1	
R5507		ERJ3GEYJ152	M.RESISTOR CH 3W 1.5K	1	
R5508		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R5509		ERJ3GEYJ272	M.RESISTOR CH 3W 2.7K	1	
R5510		ERJ3GEYJ822	M.RESISTOR CH 3W 8.2K	1	
R5511		ERJ3GEYJ332	M.RESISTOR CH 3W 3.3K	1	
R5512		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	1	
R5513		ERJ3GEYJ100	M.RESISTOR CH 3W 10	1	
R5514		ERJ3GEYJ152	M.RESISTOR CH 3W 1.5K	1	
R5515		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R5516		ERJ3GEYJ272	M.RESISTOR CH 3W 2.7K	1	
R5517		ERJ3GEYJ822	M.RESISTOR CH 3W 8.2K	1	
R5518		ERJ3GEYJ332	M.RESISTOR CH 3W 3.3K	1	
R5519		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	1	
R5520		ERJ3GEYJ152	M.RESISTOR CH 3W 1.5K	1	
R5521		ERJ3GEYJ102	M.RESISTOR CH 3W 1K	1	
R5522		ERJ3GEYJ272	M.RESISTOR CH 3W 2.7K	1	
R5523		ERJ3GEYJ822	M.RESISTOR CH 3W 8.2K	1	
R5524		ERJ3GEYJ332	M.RESISTOR CH 3W 3.3K	1	
R5525,26		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	2	
R5531		ERJ3GEYJ103	M.RESISTOR CH 3W 10K	1	
R5535		ERJ3GEYJ152	M.RESISTOR CH 3W 1.5K	1	
R5536,37		ERJ3GEYJ332	M.RESISTOR CH 3W 3.3K	2	
R5538		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R5539		ERJ3GEYJ332	M.RESISTOR CH 3W 3.3K	1	
R5540-43		ERJ3GEYJ471	M.RESISTOR CH 3W 470	4	
			MISCELLANEOUS		
		VSC2605	SHIELD	1	
		VMX1464	SHIELD SPACER	1	
	■	VEP06613A	VTR OPERATION C.B.A.		(NLA)
D6501		BR3668S	DIODE	1	
D6502,03		MA141WA	DIODE	2	
D6504		MA141K	DIODE	1	
D6505		MA141WA	DIODE	1	
D6508		MA4033M	DIODE	1	
D6510		MA141WA	DIODE	1	
D6511,12		MA141K	DIODE	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
D6514		MA141K	DIODE	1	
D6516-20		BR3668S	DIODE	5	
D6522		BR3668S	DIODE	1	
P6501		VJP2107	CONNECTOR	1	
SW6501,02		ESD100127	SWITCH	2	
SW6503-08		EVQQSB04B	SWITCH	6	
SW6510-12		EVQQSB04B	SWITCH	3	
SW6514-17		EVQQSB04B	SWITCH	4	
SW6518		VST0098	SWITCH	1	
	■	VEP06614A	CAMERA OPERATION C.B.A.		(NLA)
			CAPACITORS		
C6701,02		ECEA0JKS470	E.CAPACITOR 6.3V 47U	2	
D6701		BR3668S	DIODE	1	
D6702-09		MA165	DIODE	8	
P6701		VJP1614T	CONNECTOR(MALE)	1	
P6702		VJP1606T	CONNECTOR(MALE)	1	
P6703		VJP1612T	CONNECTOR(MALE)	1	
P6704		VJP1607T	CONNECTOR(MALE)	1	
Q6701		2SD636	TRANSISTOR	1	(Q,R,S)
Q6702		2SB641	TRANSISTOR	1	(Q,R,S)
Q6703		2SD636	TRANSISTOR	1	(Q,R,S)
			RESISTORS		
R6703		ERDS2TJ183	C.RESISTOR 1/4W 18K	1	
R6704		ERDS2TJ124	C.RESISTOR 1/4W 120K	1	
R6705		ERDS2TJ154	C.RESISTOR 1/4W 150K	1	
R6708		ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R6731		ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R6732		ERDS2TJ394	C.RESISTOR 1/4W 390K	1	
R6733		ERDS2TJ153	C.RESISTOR 1/4W 15K	1	
R6734		ERDS2TJ333	C.RESISTOR 1/4W 33K	1	
R6735		ERDS2TJ223	C.RESISTOR 1/4W 22K	1	
R6736		ERDS2TJ153	C.RESISTOR 1/4W 15K	1	
R6737		ERDS2TJ393	C.RESISTOR 1/4W 39K	1	
SW6701-09		EVQQSU04W	SWITCH	9	
SW6710		VSS0170	SWITCH	1	
SW6711		VSS0126	SWITCH	1	

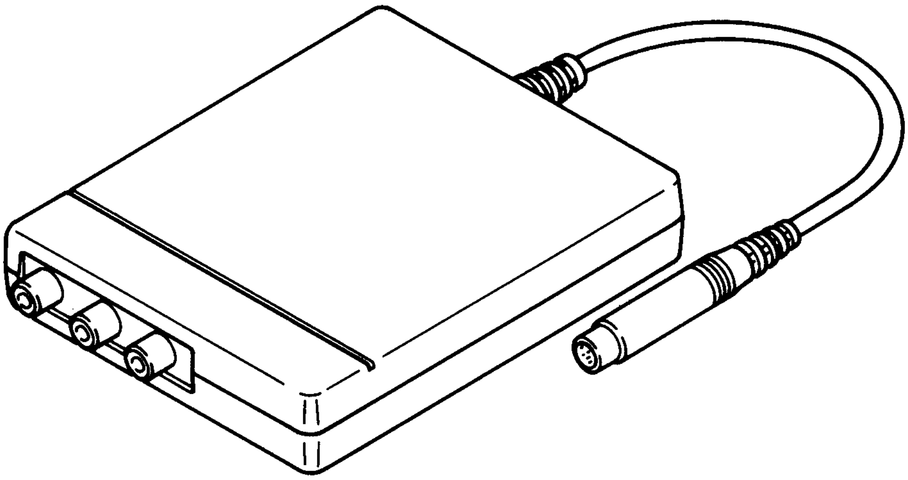
Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP04281A	VTR JACK C.B.A.		(NLA)
			CAPACITORS		
C4901		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C4902,03		ECUM1H221JN	C.CAPACITOR CH 50V 220P	2	
D4901		LN38GCPPSVT	LED	1	
D4902		MA738	DIODE	1	
D4903		MA151WK	DIODE	1	
D4904		MA151WA	DIODE	1	
D4905		MA3056	DIODE	1	
P4901		VJP1611T	CONNECTOR(MALE)	1	
P4902		VJP1609T	CONNECTOR(MALE)	1	
P4903		VJP1608T	CONNECTOR(MALE)	1	
P4904,05		VJP1611T	CONNECTOR(MALE)	2	
P4906		VJP1244T	CONNECTOR(MALE) 4P	1	
Q4901		2SD601	TRANSISTOR CHIP	1	
QR4901		UN2213	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R4901		ERJ8GCYJ391	M.RESISTOR CH 1/8W 390	1	
R4902		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R4903		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R4904		ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	1	
R4905		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R4906		ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	1	
S4901		VSS0280	SWITCH	1	
	■	VEK4730	ZOOM SW,START/STOP SW, SUB START/STOP SW C.B.A.		(NLA)
			MISCELLANEOUS		
		EVQQSU04W	SWITCH	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEK4644	REMOTE CONTROL JACK C.B.A.		(NLA)
			MISCELLANEOUS		
		VJJ0125	REMOTE CONTROL JACK	1	
	■	VEK4643	E.V.F. CONNECTOR C.B.A.		(NLA)
J1504		VJJ0163	E.V.F. JACK	1	
P1505		VJP1614T	CONNECTOR	1	
	■	VEP00H73B	FE HEAD C.B.A.		(NLA)
C1501		ECEA1CKS100	E.CAPACITOR 16V 10	1	
C1502		ECKF1H472ZF	C.CAPACITOR 50V 4700P	1	
C1503		VCYD1C103MR1	S.CAPACITOR 16V 0.01U	1	
C1504		ECQV1H333JZ	P.CAPACITOR 50V 0.033U	1	
L1501		VLQEL05F221K	COIL 220UH	1	
Q1504		2SC2603	TRANSISTOR	1	
R1503		ERDS2TJ333	C.RESISTOR 1/4W 33K	1	
T1501		EIQ7QT007Q	TRANSFORMER	1	
	■	VES0413	MECHANISM CONNECTION C.B.A.		(NLA)
Q1503		ON2170	TRANSISTOR	1	
			MISCELLANEOUS		
		VJP1229R	CONNECTOR 2P	1	
		VJP1235T	CONNECTOR 8P	1	
		VMX1280	DETECTOR SPACER	1	
		VSS0193	MODE SWITCH	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEK3414	TAKE-UP PHOTO C.B.A.		(NLA)
			MISCELLANEOUS		
		PN158NV	PHOTO Tr.	1	
		VMD0606	PHOTO Tr. HOLDER	1	
	■	VEK3415	SUPPLY PHOTO C.B.A.		(NLA)
			MISCELLANEOUS		
		PN158NV	PHOTO Tr.	1	
		VMD0607	PHOTO Tr. HOLDER	1	

Line Adaptor

VW-KM10E



SPECIFICATIONS

ITEM	SPECIFICATION
POWER	Source: DC 12 V
	Consumption: 0.4 W (DC 12 V)
VIDEO	Input: VIDEO IN connector (Phono type) 1.0 Vp-p, 75Ω terminated
AUDIO	Input: AUDIO IN connector (Phono type) −1.0 dB, 47 kΩ terminated
DIMENSIONS	85 mm (W) × 27 mm (H) × 100 mm (D)
WEIGHT	120 g

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

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   ❷ PACKING PARTS SECTION 6

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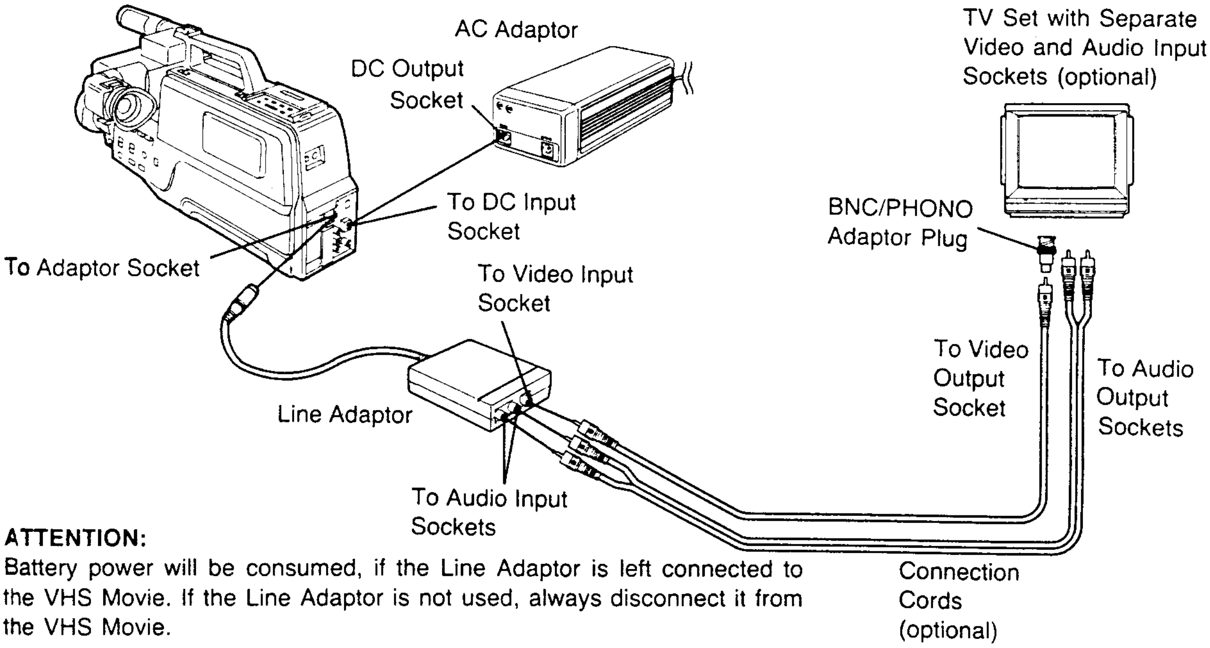
6. ELECTRICAL REPLACEMENT PARTS LIST 8

1. CONNECTION DIAGRAM

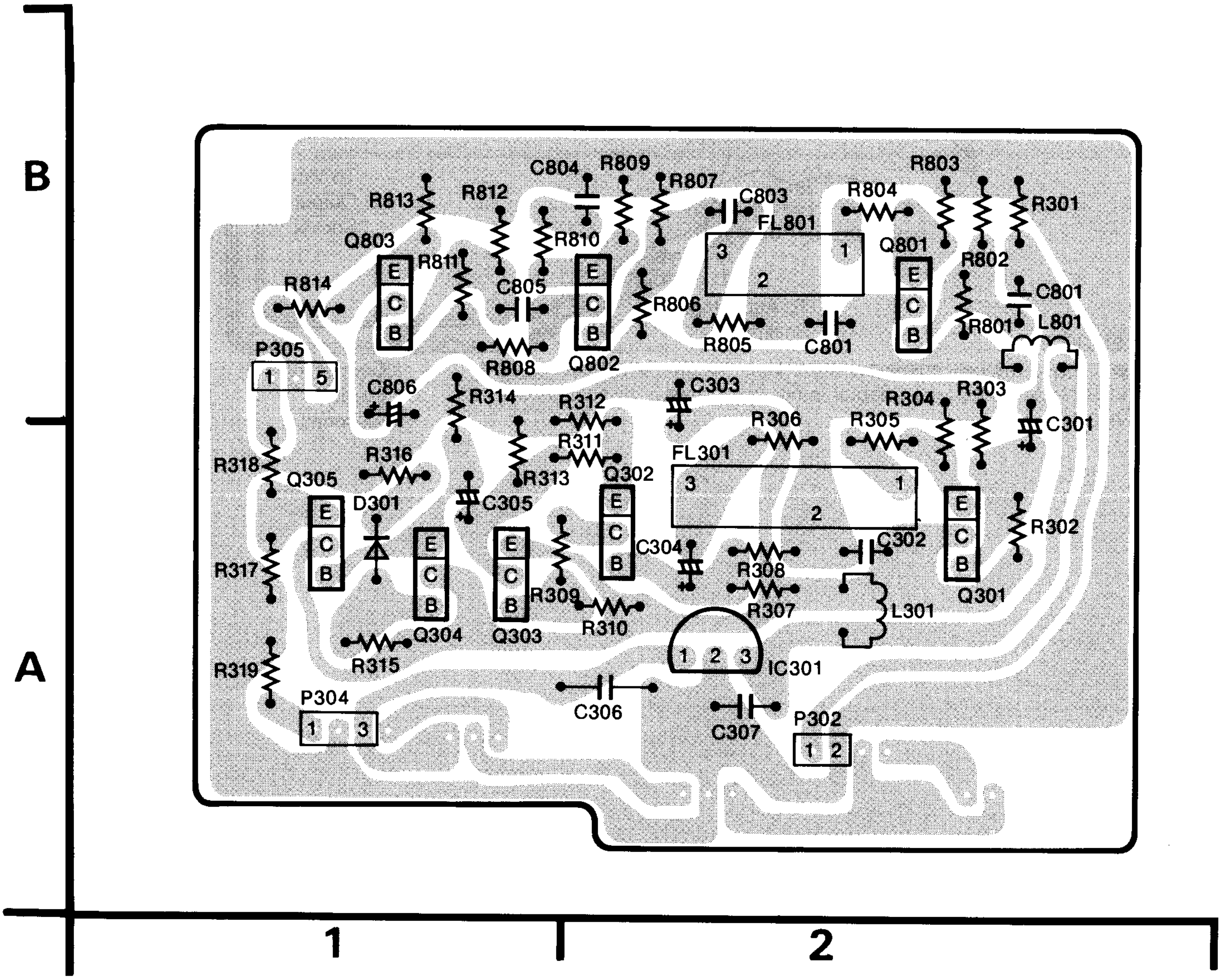
Before connecting, make sure that the Operation On/Off Switch of the VHS Movie is in the "OFF" position.

- It is also possible to use the Battery Pack or Car Battery Cord instead of the AC Adaptor.


AC Adaptor
DC Output Socket
TV Set with Separate Video and Audio Input Sockets (optional)
To DC Input Socket
BNC/PHONO Adaptor Plug
To Adaptor Socket
To Video Input Socket
To Video Output Socket
To Audio Output Sockets
Line Adaptor
To Audio Input Sockets
Connection Cords (optional)

ATTENTION:
Battery power will be consumed, if the Line Adaptor is left connected to the VHS Movie. If the Line Adaptor is not used, always disconnect it from the VHS Movie.

2. MAIN C.B.A. (VEP60199A)


B
A
1
2
C804
R809
R807
R803
R813
R812
C803
R804
R301
R810
FL801
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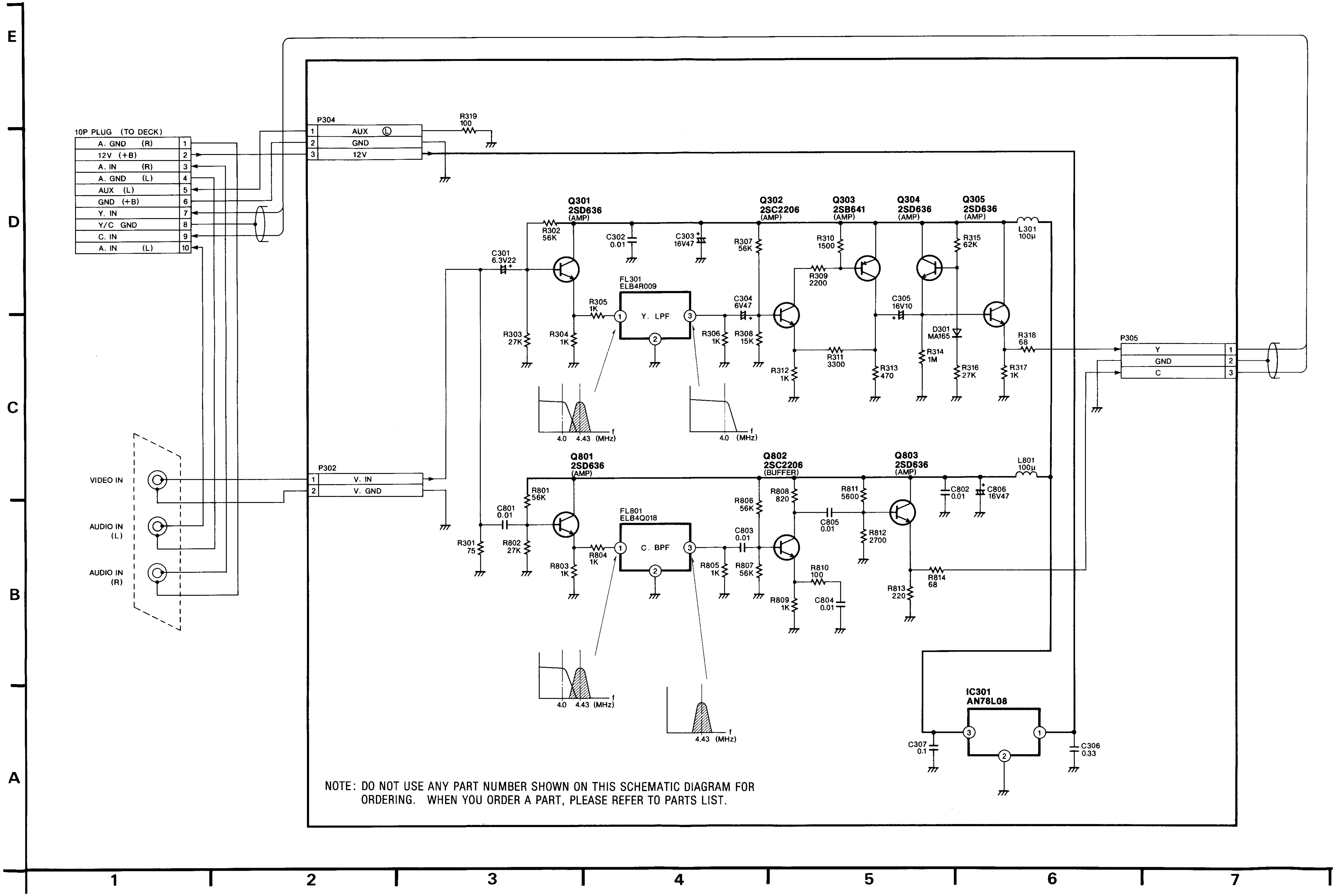
R811
Q801
R802
R814
C805
E
C
B
R806
C801
R801
L801
R805
C801
P305
1
5
R808
Q802
C806
R314
C303
R304
R303
R312
R306
R305
C301
R311
R318
R316
FL301
Q305
R313
Q302
D301
C305
R302
C304
C302
R317
R308
R309
Q301
R310
R307
L301
Q304
Q303
IC301
R319
R315
P304
C306
C307
P302
3
2
1

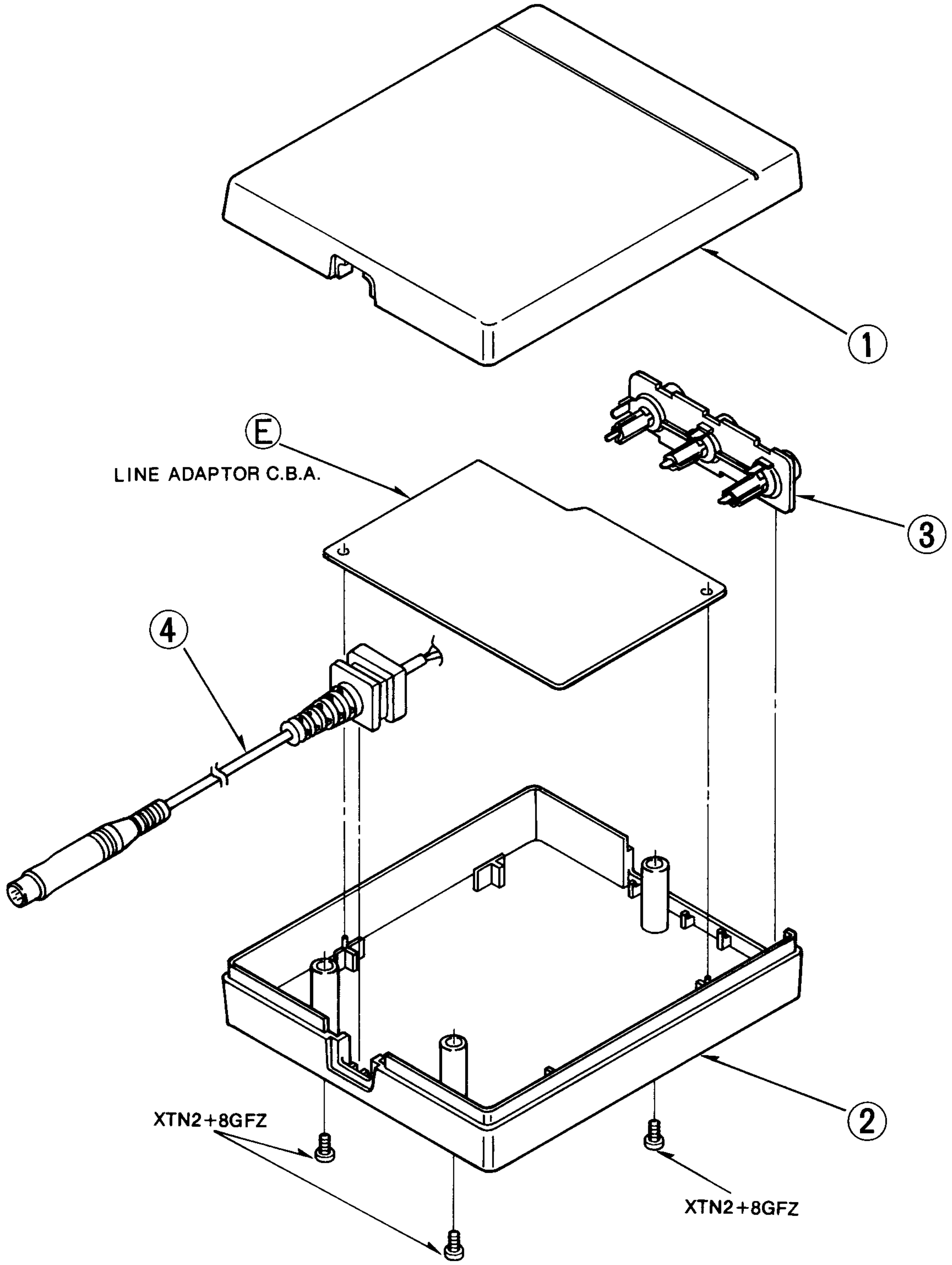
3. LINE ADAPTOR SCHEMATIC DIAGRAM


E
D
C
B
A
1
2
3
4
5
6
7
10P PLUG (TO DECK)
A. GND (R) 1
12V (+B) 2
A. IN (R) 3
A. GND (L) 4
AUX (L) 5
GND (+B) 6
Y. IN 7
Y/C GND 8
C. IN 9
A. IN (L) 10
P304
1 AUX Ⓛ
2 GND
3 12V
R319 100
VIDEO IN
AUDIO IN (L)
AUDIO IN (R)
P302
1 V. IN
2 V. GND
Q301 2SD636 (AMP)
R302 56K
C301 6.3V22
R303 27K
R304 1K
R305 1K
C302 0.01
C303 16V47
FL301 ELB4R009
Y. LPF
4.0 4.43 (MHz)
f
4.0 (MHz)
R306 1K
C304 6V47
R307 56K
R308 15K
Q302 2SC2206 (AMP)
R309 2200
R312 1K
R311 3300
Q303 2SB641 (AMP)
R310 1500
R313 470
C305 16V10
Q304 2SD636 (AMP)
D301 MA165
R314 1M
R315 62K
R316 27K
Q305 2SD636 (AMP)
R317 1K
R318 68
L301 100μ
P305
Y 1
GND 2
C 3
Q801 2SD636 (AMP)
R801 56K
C801 0.01
R301 75
R802 27K
R803 1K
R804 1K
FL801 ELB4Q018
C. BPF
R805 1K
C803 0.01
R806 56K
R807 56K
Q802 2SC2206 (BUFFER)
R808 820
R809 1K
R810 100
C804 0.01
R811 5600
C805 0.01
R812 2700
Q803 2SD636 (AMP)
R813 220
R814 68
C802 0.01
C806 16V47
L801 100μ
4.43 (MHz)
IC301 AN78L08
C307 0.1
C306 0.33

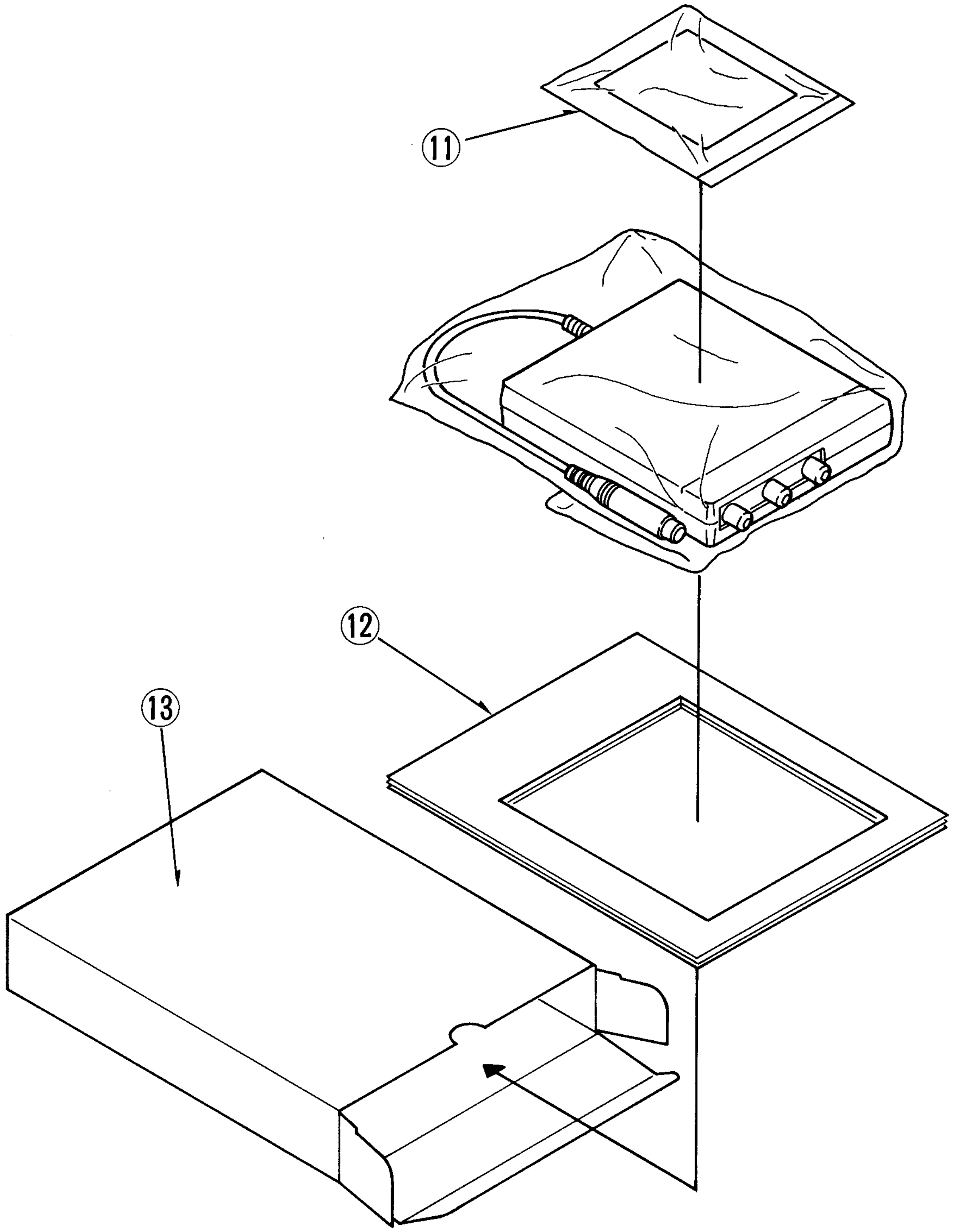
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

4. EXPLODED VIEW

❶ CASING PARTS SECTION


①
Ⓔ
LINE ADAPTOR C.B.A.
③
④
②
XTN2+8GFZ
XTN2+8GFZ

❷ PACKING PARTS SECTION



5. VW-KM10E MECHANICAL REPLACEMENT PARTS LIST

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
1(1)		VKM2054	TOP COVER	1	
2(1)		VKM2055	BOTTOM COVER	1	
3(1)		VEJ0950	TERMINAL PLATE	1	
4(1)		VJA0587	10P CABLE UNIT	1	
11(2)		VQT3505	OPERATING INSTRUCTIONS	1	<!>
12(2)		VPN1390	PAT	1	
13(2)		VPK1166	PACKING BOX	1	

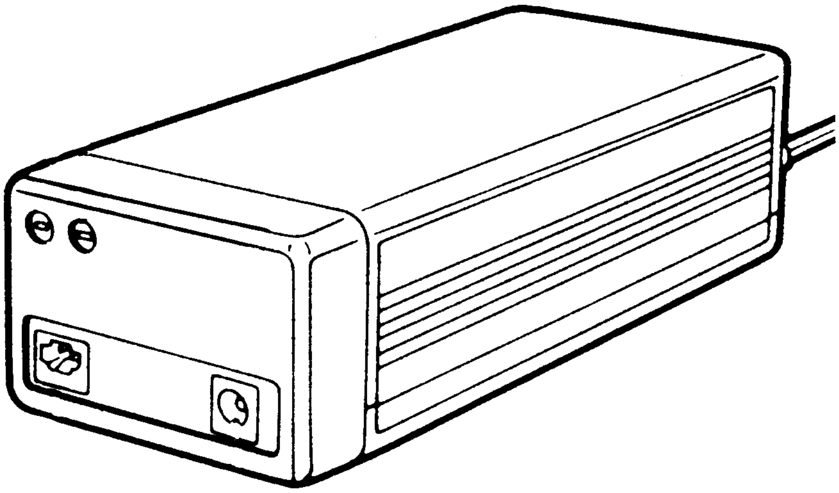
6. VW-KM10E ELECTRICAL REPLACEMENT PARTS LIST

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VEP60199A	MAIN C.B.A.	1	(NIA)
	■	VEP60199A	MAIN C.B.A.		(NIA)
			CAPACITORS		
C301		ECEA0JK220	E.CAPACITOR 6.3V 22U	1	
C302		ECKF1H103ZF	C.CAPACITOR 50V 0.01U	1	
C303		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C304		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C305		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C306		ECQV1H334JZ	P.CAPACITOR 50V 0.33U	1	
C307		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C801		ECKF1H103ZF	C.CAPACITOR 50V 0.01U	1	
C802		ECKF1H103ZF	C.CAPACITOR 50V 0.01U	1	
C803		ECKF1H103ZF	C.CAPACITOR 50V 0.01U	1	
C804		ECKF1H103ZF	C.CAPACITOR 50V 0.01U	1	
C805		ECKF1H103ZF	C.CAPACITOR 50V 0.01U	1	
C806		ECEA1CK470	E.CAPACITOR 6.3V 47U	1	
D301		MA165	DIODE	1	
FL301		ELB4R009	FILTER	1	
IC301		AN78L08	IC	1	
L301		VLQEL05F101K	COIL 100UH	1	
L801		VLQEL05F101K	COIL 100UH	1	
P302		VJP1229T	CONNECTOR 2P	1	
P304		VJP1230T	CONNECTOR 3P	1	
P305		VJP1230T	CONNECTOR 3P	1	
Q301		2SD636	TRANSISTOR	1	(Q,R,S)
Q302		2SC2206	TRANSISTOR	1	(A,B,C)
Q303		2SB641	TRANSISTOR	1	(Q,R,S)
Q304		2SD636	TRANSISTOR	1	(Q,R,S)
Q305		2SD636	TRANSISTOR	1	(Q,R,S)
Q801		2SD636	TRANSISTOR	1	(Q,R,S)
Q802		2SC2206	TRANSISTOR	1	(A,B,C)
Q803		2SD636	TRANSISTOR	1	(Q,R,S)
R301		ERDS2TJ750	C.RESISTOR 1/4W 75	4	
R302		ERDS2TJ563	C.RESISTOR 1/4W 56K	2	
R303		ERDS2TJ273	C.RESISTOR 1/4W 27K	1	
R304		ERDS2TJ102	C.RESISTOR 1/4W 1K	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R305		ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R306		ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R307		ERDS2TJ563	C.RESISTOR 1/4W 56K	1	
R308		ERDS2TJ153	C.RESISTOR 1/4W 15K	1	
R309		ERDS2TJ222	C.RESISTOR 1/4W 2.2K	1	
R310		ERDS2TJ152	C.RESISTOR 1/4W 1.5K	1	
R311		ERDS2TJ332	C.RESISTOR 1/4W 3.3K	4	
R312		ERDS2TJ102	C.RESISTOR 1/4W 1K	2	
R313		ERDS2TJ471	C.RESISTOR 1/4W 470	2	
R314		ERDS2TJ105	C.RESISTOR 1/4W 1M	1	
R315		EROS2CKG6202	M.RESISTOR 1/4W 62K	1	
R316		EROS2CKG2702	M.RESISTOR 1/4W 27K	1	
R317		ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R318		ERDS2TJ680	C.RESISTOR 1/4W 68	1	
R319		ERDS2TJ101	C.RESISTOR 1/4W 100	1	
R801		ERDS2TJ563	C.RESISTOR 1/4W 56K	1	
R802		ERDS2TJ273	C.RESISTOR 1/4W 27K		
R803		ERDS2TJ102	C.RESISTOR 1/4W 1K		
R804		ERDS2TJ102	C.RESISTOR 1/4W 1K		
R805		ERDS2TJ102	C.RESISTOR 1/4W 1K		
R806		ERDS2TJ563	C.RESISTOR 1/4W 56K		
R807		ERDS2TJ563	C.RESISTOR 1/4W 56K		
R808		ERDS2TJ821	C.RESISTOR 1/4W 820		
R809		ERDS2TJ102	C.RESISTOR 1/4W 1K		
R810		ERDS2TJ101	C.RESISTOR 1/4W 100		
R811		ERDS2TJ562	C.RESISTOR 1/4W 5.6K		
R812		ERDS2TJ272	C.RESISTOR 1/4W 2.7K		
R813		ERDS2TJ221	C.RESISTOR 1/4W 220		
R814		ERDS2TJ680	C.RESISTOR 1/4W 68		

AC Adaptor

VW-AM10 E B A EA



SPECIFICATIONS

ITEM	SPECIFICATION
POWER	Source: 100~240V AC 50/60Hz (Automatic Voltage Adjustment)
	Consumption: 44 watts
	Output: DC 12V, 1.8A for VHS Movie DC 12V, 1.5A for battery charge
DIMENSIONS	80(W) × 54(H) × 196(D) mm
WEIGHT	Approx. 0.62kg

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

CAUTION: FOR USE WITH VHS VIDEO MOVIE, MODEL NV-M10.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

CONTENTS

1. CONTROLS AND COMPONENTS 1

2. DISASSEMBLY METHOD 1

3. ELECTRICAL ADJUSTMENT PROCEDURES 2

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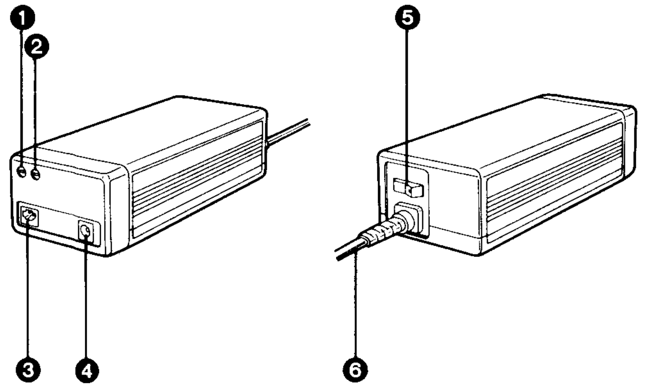
8. ELECTRICAL REPLACEMENT PARTS LIST 9

1. CONTROLS AND COMPONENTS



- ❶ Power Indicator
- ❷ Charging Indicator
- ❸ DC Output Socket
- ❹ Battery Pack Charging Socket
- ❺ Power On/Off Switch
- ❻ Mains Lead

2. DISASSEMBLY METHOD

1. REMOVAL OF TOP CASE AND BOTTOM CASE

(1) Unscrew 4 Screws (A) and then remove the Top Case and Bottom Case.

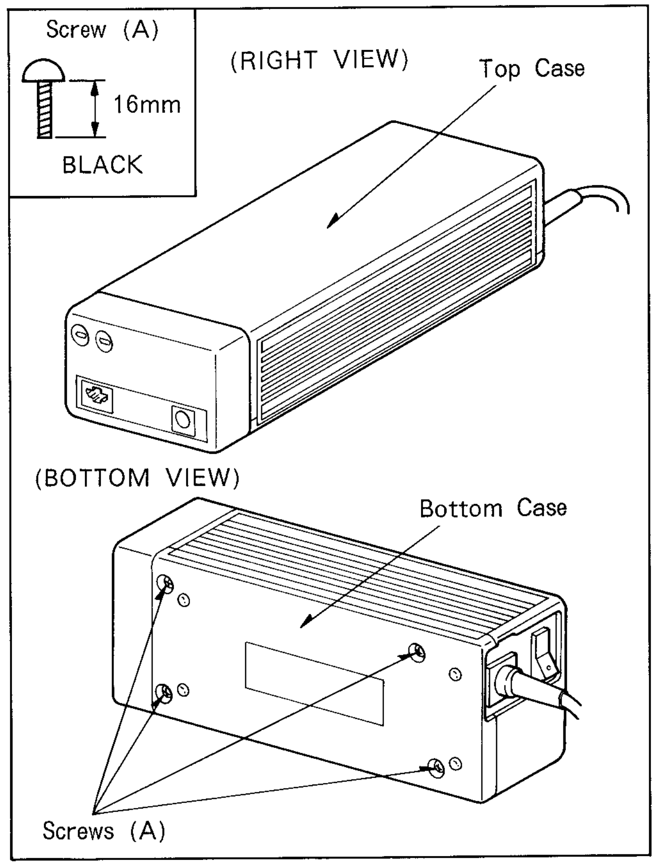

Screw (A)
16mm
BLACK
(RIGHT VIEW)
Top Case
(BOTTOM VIEW)
Bottom Case
Screws (A)

Fig. 1

2. REMOVAL OF FRONT PANEL

(1) Remove the Front Panel dis connecting the connector P1.

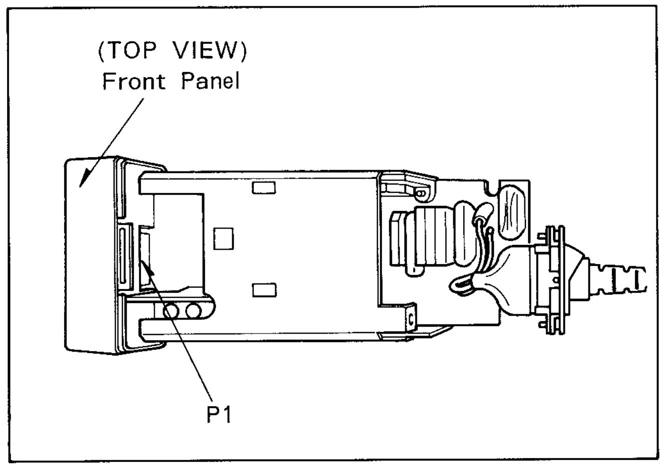

(TOP VIEW)
Front Panel
P1

Fig. 2

3. REMOVAL OF MAIN C.B.A.

(1) Unscrew 3 Screws (B) and then remove the Top Shield.
(2) Unscrew the Screw (C) and then remove the Bottom Shield.

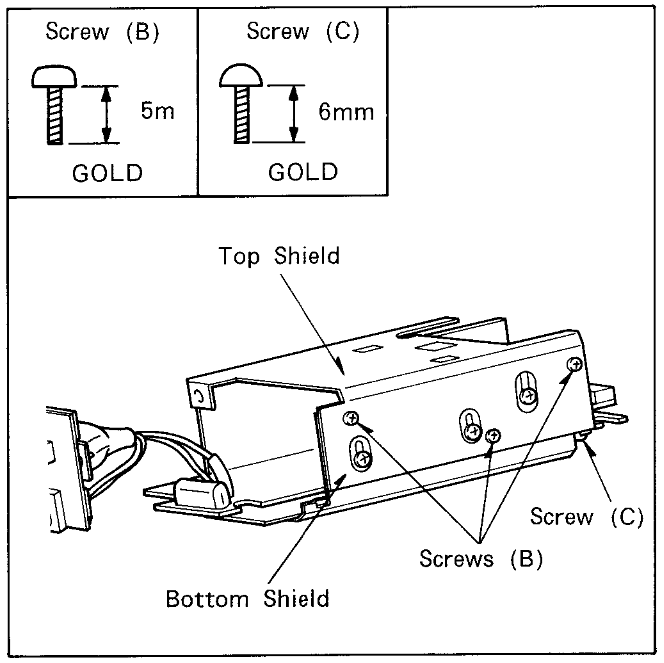

Screw (B)
5m
GOLD
Screw (C)
6mm
GOLD
Top Shield
Screw (C)
Screws (B)
Bottom Shield

Fig. 3

4. REMOVAL OF FRONT PANEL C.B.A.

(1) Unscrew 2 Screws (D).
(2) While pushing 2 Portions of the DC Output Socket and the Battery Pack Charging Socket, Remove the Front Panel C.B.A.

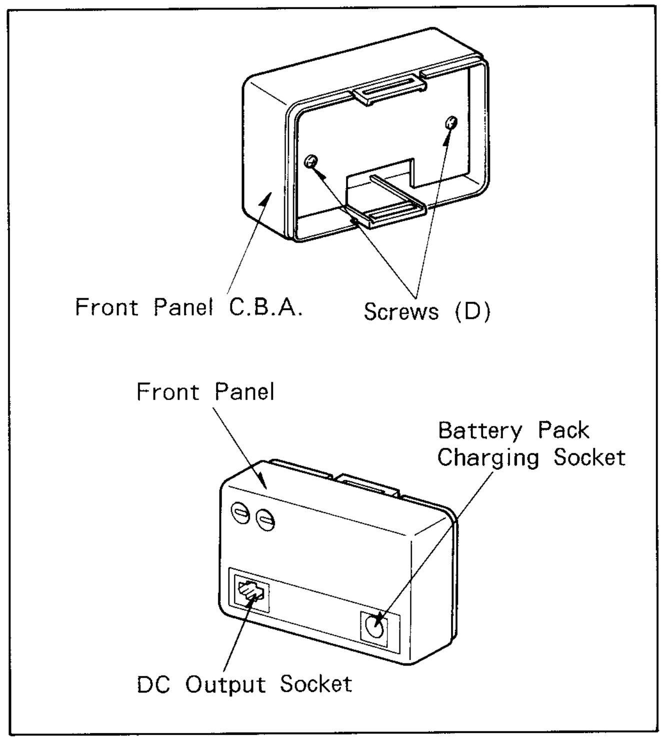

Front Panel C.B.A.
Screws (D)
Front Panel
Battery Pack
Charging Socket
DC Output Socket

Fig. 4

3. ELECTRICAL ADJUSTMENT PROCEDURES

This section provides complete electrical adjustment procedures which may be required for electronic circuit of the AC Adaptor.

3-1. TEST EQUIPMENT

To perform the electrical adjustments completely following equipments are required.

1. D.V.M. (Digital Volt Meter)
   Voltage Range : 0.001～50V
2. Oscilloscope
   Voltage Range : 0.005～50V/div
3. DC Ammeter
   Current Range : 0～10A
4. DC Voltmeter
   Voltage Range : 0～20V
5. Plastic Tip Driver
6. Resistor (5ohm Variable 200W)
7. DC Power Supply (5A/20V)

3-2. INITIAL CHARGE CURRENT AND SCHMITT VOLTAGE ADJUSTMENT

TP	ADJ.	MODE	INPUT
BATTERY HOLDER (+) (−)	VR201 VR202	CHARGE	
TAPE	**M. EQ.**	**SPEC.**	
	DC AM/ D.V.M.	A=1.5+−0.005[A] VR201 From High to Low VR202	

1. Make the connection as shown below.

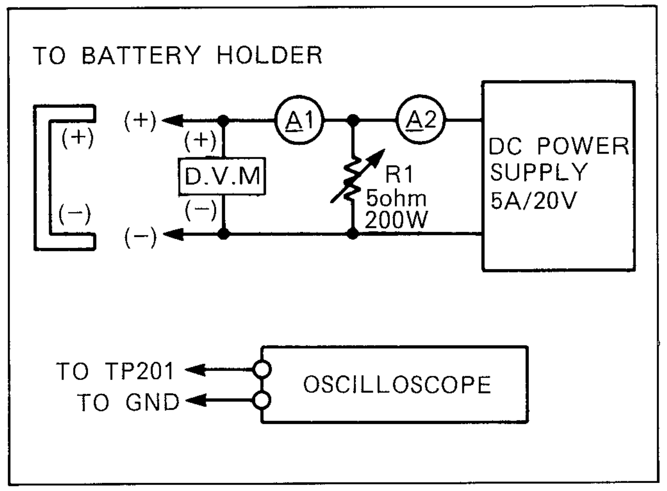
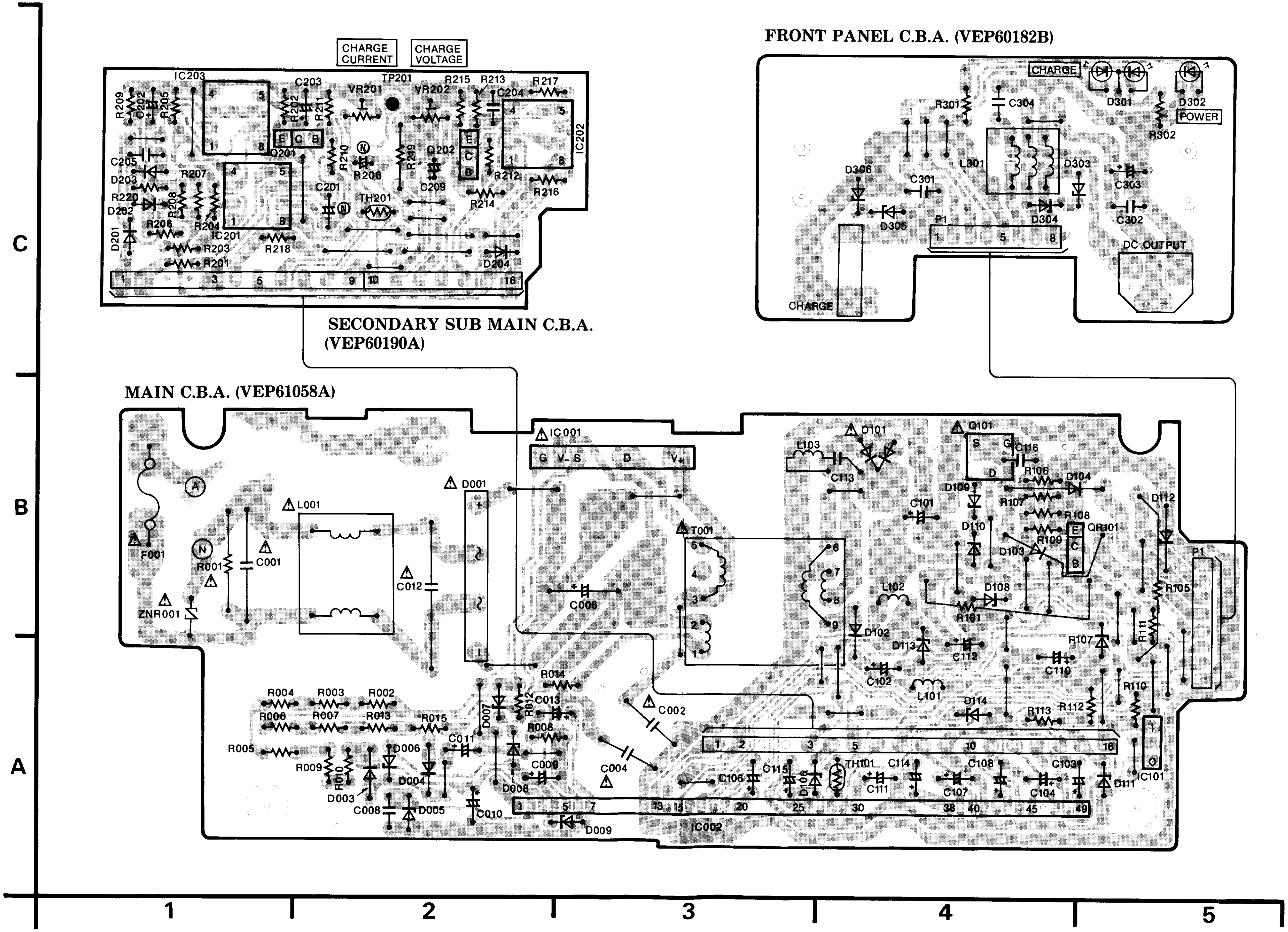

TO BATTERY HOLDER
(+)
(−)
(+)
(−)
(+)
D.V.M
(−)
A1
A2
R1
5ohm
200W
DC POWER
SUPPLY
5A/20V
TO TP201
TO GND
OSCILLOSCOPE

Fig. 5

2. Adjust the output of the DC power supply so that the indication of the DC voltmeter becomes 14.0V and adjust R1 so that the indication of the DC ammeter (A2) becomes 3.0A.
3. Adjust VR201 so that the indication of the DC ammeter (A1) becomes 1.5+−0.05A.
4. Adjust the output level of the DC power supply to 15.3V.
5. Adjust the VR202 so that voltage at TP201 is changed from high (approx. 15V) to low (approx. 0.5).

It is also available to use a resistor 5ohm/50W or 2 pieces of 10ohm/20W resistors inparallel use or equevalent, instead of variable resistor, 5ohm/200W to get specified current.

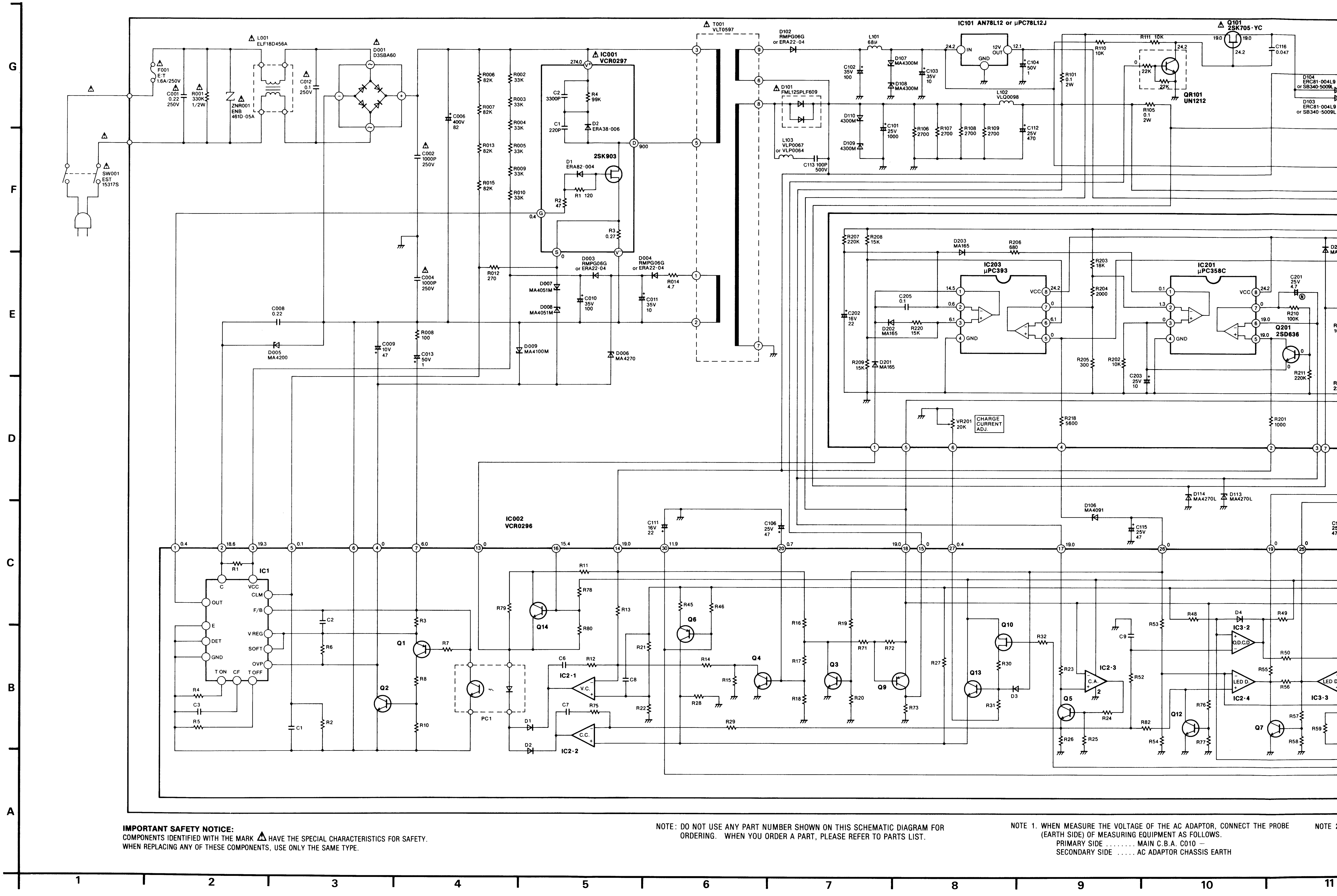
4. MAIN C.B.A. (VEP61058A), SECONDARY SUB MAIN C.B.A. (VEP60190A) & FRONT PANEL C.B.A. (VEP60182B)


CHARGE CURRENT
CHARGE VOLTAGE
SECONDARY SUB MAIN C.B.A. (VEP60190A)
IC203
C203
TP201
VR201
VR202
R215
R213
R217
C204
R209
C202
R205
R202
R211
Q201
E C B
R210
R219
Q202
IC202
C205
D203
R207
R206
C209
R212
R216
R220
D202
R208
R204
IC201
C201
TH201
R214
D201
R203
R201
R218
D204
1 3 5 9 10 16
FRONT PANEL C.B.A. (VEP60182B)
CHARGE
D301
D302
POWER
R301
C304
R302
D306
L301
D303
C303
C301
D305
P1
D304
C302
DC OUTPUT
CHARGE
MAIN C.B.A. (VEP61058A)
IC001
G V- S D V+
D001
L001
F001
R001
C001
C012
ZNR001
C006
T001
L103
D101
C113
Q101
S G D
C116
R106
D104
D109
R107
C101
R108
D110
R109
QR101
D103
D112
L102
D108
R101
R105
D102
D113
C112
R107
R111
C102
L101
C110
R110
D114
R113
R112
R014
R004
R003
R002
D007
R012
C013
R006
R007
R013
R015
R008
C002
R005
C011
D006
R009
R010
D003
D004
C009
C004
D008
C008
D005
C010
D009
IC002
C106
C115
D106
TH101
C114
C111
C108
C107
C103
C104
D111
IC101
1 2 3 5 10 16
1 5 7 13 15 20 25 30 38 40 45 49
A
B
C
1
2
3
4
5

MAIN C.B.A. & SECONDARY SUB MAIN C.B.A.	
Transistor	
Q101 Q201 Q202	B-4 C-1 C-2
Transistor & Resistor	
QR101	B-5
Integrated Circuit	
IC001 IC002 IC101 IC201 IC202 IC203	B-3 A-3 A-5 C-1 C-2 C-1
Test Point	
TP201	C-2
Adjustment	
VR201 VR202	C-2 C-2
Connector	
P1 P1	C-4 B-5

ADDRESS INFORMATION

5. AC ADAPTOR SCHEMATIC DIAGRAM

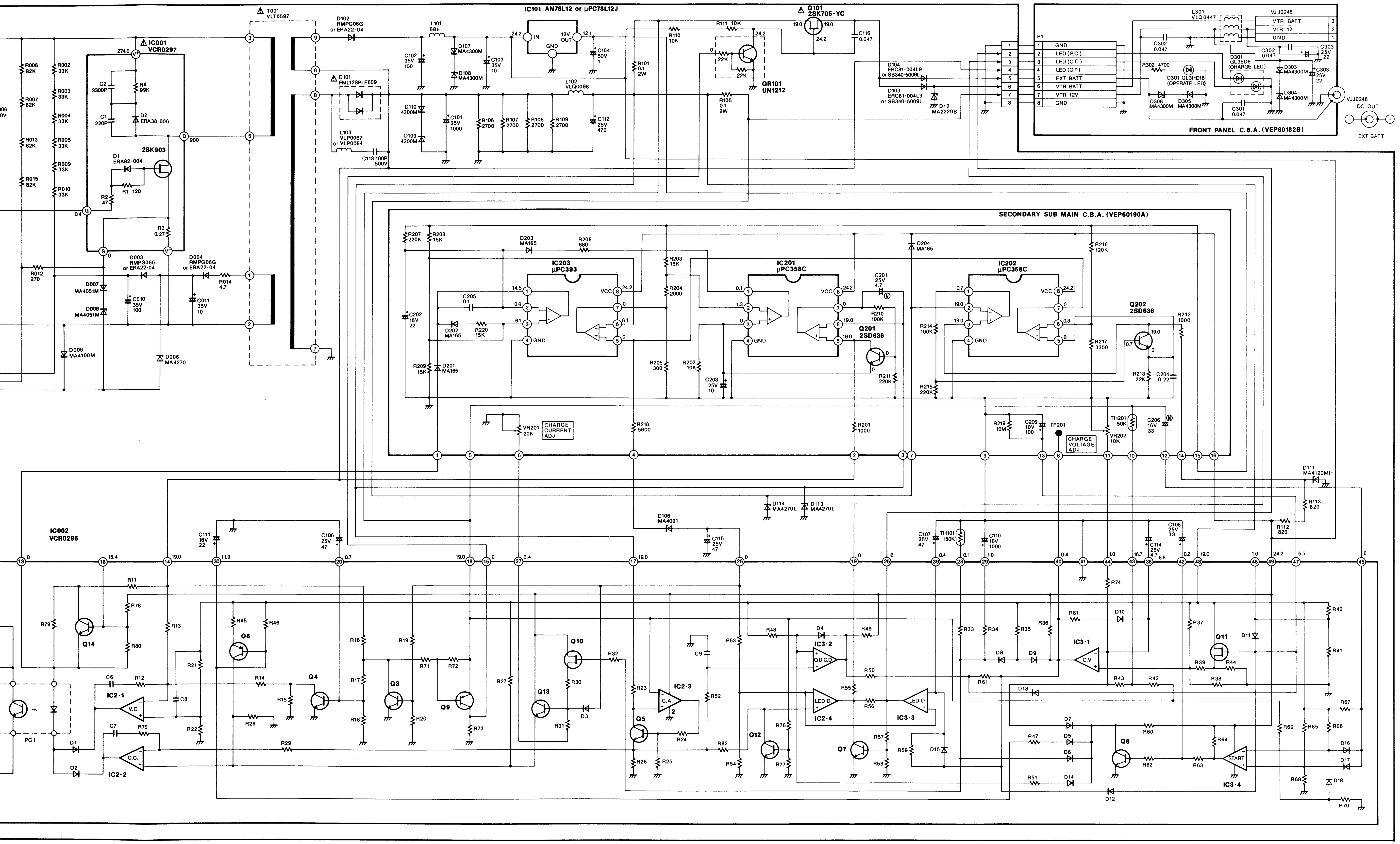

G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
SW001 EST 15317S
F001 E·T 1.6A/250V
C001 0.22 250V
R001 330K 1/2W
ZNR001 ENB 461D·05A
L001 ELF18D456A
C012 0.1 250V
D001 D3SBA60
C006 400V 82
C002 1000P 250V
C004 1000P 250V
C008 0.22
D005 MA4200
C009 10V 47
R008 100
C013 50V 1
R006 82K
R007 82K
R013 82K
R015 82K
R002 33K
R003 33K
R004 33K
R005 33K
R009 33K
R010 33K
R012 270
IC001 VCR0297
C2 3300P
C1 220P
R4 99K
D2 ERA38·006
D1 ERA82·004
2SK903
R1 120
R2 47
R3 0.27
D003 RMPG06G or ERA22·04
D004 RMPG06G or ERA22·04
R014 4.7
D007 MA4051M
D008 MA4051M
C010 35V 100
C011 35V 10
D009 MA4100M
D006 MA4270
T001 VLT0597
D102 RMPG06G or ERA22·04
D101 FML12SPLF609
L103 VLP0067 or VLP0064
C113 100P 500V
L101 68μ
C102 35V 100
D107 MA4300M
D108 MA4300M
C103 35V 10
D110 4300M
D109 4300M
C101 25V 1000
R106 2700
R107 2700
R108 2700
R109 2700
IC101 AN78L12 or μPC78L12J
IN
GND
12V OUT
C104 50V 1
L102 VLQ0098
C112 25V 470
R101 0.1 2W
R110 10K
R111 10K
QR101 UN1212
22K
R105 0.1 2W
Q101 2SK705·YC
C116 0.047
D104 ERC81·004L9 or SB340·5009L
D103 ERC81·004L9 or SB340·5009L
R207 220K
R208 15K
D203 MA165
R206 680
IC203 μPC393
C205 0.1
D202 MA165
R220 15K
C202 16V 22
R209 15K
D201 MA165
R203 18K
R204 2000
IC201 μPC358C
C201 25V 4.7
R210 100K
Q201 2SD636
R211 220K
R205 300
R202 10K
C203 25V 10
VR201 20K
CHARGE CURRENT ADJ.
R218 5600
R201 1000
D114 MA4270L
D113 MA4270L
D106 MA4091
C115 25V 47
C111 16V 22
C106 25V 47
IC002 VCR0296
IC1
VCC
CLM
F/B
V REG
SOFT
OVP
T ON
CF
T OFF
OUT
E
DET
GND
Q1
Q2
PC1
Q14
Q6
Q4
Q3
Q9
Q13
Q10
Q5
Q12
Q7
IC2·1
V.C.
IC2·2
C.C.
IC2·3
C.A.
IC3·2
Q.D.C.D
IC2·4
LED D
IC3·3

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE 1. WHEN MEASURE THE VOLTAGE OF THE AC ADAPTOR, CONNECT THE PROBE (EARTH SIDE) OF MEASURING EQUIPMENT AS FOLLOWS.
PRIMARY SIDE .... MAIN C.B.A. C010 –
SECONDARY SIDE ..... AC ADAPTOR CHASSIS EARTH

NOTE


IC101 AN78L12 or μPC78L12J
Q101 2SK705-YC
T001 VLT0597
IC001 VCR0297
2SK903
D102 RMPG06G or ERA22-04
D101 FML12SPLF609
L101 68μ
L102 VLQ0098
L103 VLP0067 or VLP0064
QR101 UN1212
D104 ERC81-004L9 or SB340-5009L
D103 ERC81-004L9 or SB340-5009L
D12 MA2220B
P1
GND
LED (P.C.)
LED (C.C.)
LED (OP)
EXT BATT
VTR BATT
VTR 12V
L301 VLQ0447
VJJ0246
VTR BATT
VTR 12
D301 GL3ED8 (CHARGE LED)
D301 GL3HD18 (OPERATE LED)
FRONT PANEL C.B.A. (VEP60182B)
VJJ0248
DC OUT
EXT BATT
SECONDARY SUB MAIN C.B.A. (VEP60190A)
IC203 μPC393
IC201 μPC358C
IC202 μPC358C
Q201 2SD636
Q202 2SD636
CHARGE CURRENT ADJ.
CHARGE VOLTAGE ADJ.
VR201 20K
VR202 10K
TP201
TH201 50K
TH101 150K
D111 MA4120MH
D114 MA4270L
D113 MA4270L
D106 MA4091
IC002 VCR0296
Q14
Q6
Q4
Q3
Q9
Q10
Q13
Q5
Q12
Q7
Q8
Q11
IC2-1 V.C.
IC2-2 C.C.
IC2-3 C.A.
IC2-4 LED D.
IC3-1 C.V.
IC3-2 O.D.C.D.
IC3-3 LED D.
IC3-4 START
PC1

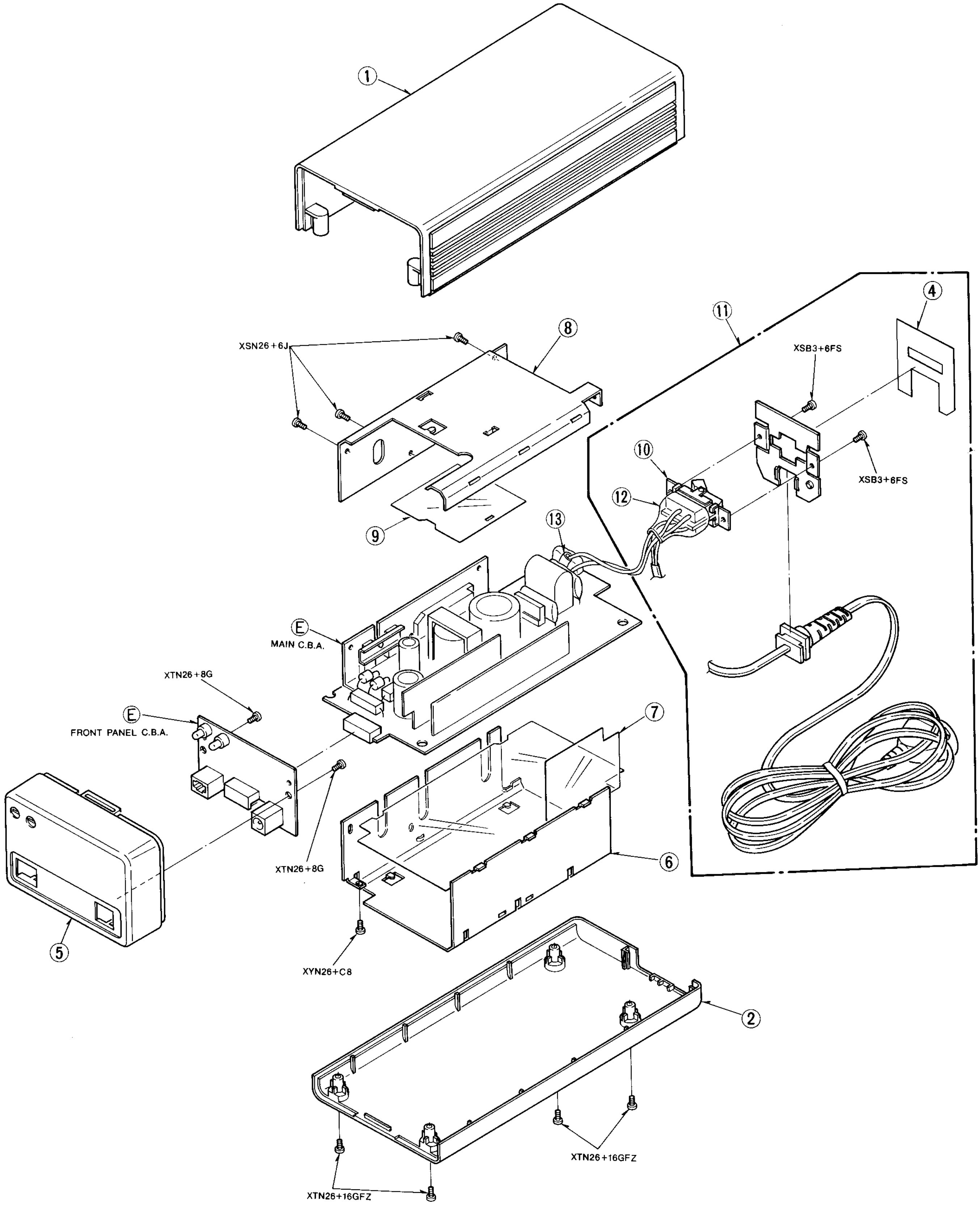
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE 1. WHEN MEASURE THE VOLTAGE OF THE AC ADAPTOR, CONNECT THE PROBE (EARTH SIDE) OF MEASURING EQUIPMENT AS FOLLOWS.
PRIMARY SIDE .... MAIN C.B.A. C010 —
SECONDARY SIDE ..... AC ADAPTOR CHASSIS EARTH

NOTE 2. THE DC VOLTAGE INDICATED IN PRIMARY SIDE IS MEASURED WHEN INPUT AC 220V IS APPLIED.
THE MEASUREMENT MODE OF DC VOLTAGE ON THIS DIAGRAM IS NOLOAD.

6. EXPLODED VIEWS

❶ CHASSIS & FRAME SECTION


①
⑪
④
XSN26+6J
⑧
XSB3+6FS
⑩
XSB3+6FS
⑫
⑨
⑬
Ⓔ
MAIN C.B.A.
XTN26+8G
Ⓔ
FRONT PANEL C.B.A.
⑦
XTN26+8G
⑥
⑤
XYN26+C8
②
XTN26+16GFZ
XTN26+16GFZ

7. VW-AM10E/B/A/EA MECHANICAL REPLACEMENT PARTS LIST

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
1(1)		VKM1979	TOP COVER	1	
2(1)		VKM1978	BOTTOM COVER	1	
4(1)		VGH2273	NAME PLATE	1	
5(1)		VYP2955	FRONT PANEL UNIT	1	
6(1)		VSC2983	BOTTOM SHIELD	1	
7(1)		VMZ1505	BOTTOM BARRIER	1	
8(1)		VSC2982	TOP SHIELD	1	
9(1)		VMZ1504	TOP BARRIER	1	
10(1)		EST15317S	POWER SWITCH	1	
11(1)		VEK4948	AC POWER CORD UNIT	1	NV-M10E/EG/EO/EW <!>
11(1)		VEK4949	AC POWER CORD UNIT	1	NV-M10B <!>
11(1)		VEK4950	AC POWER CORD UNIT	1	NV-M10A/EA <!>
12(1)		VMZ0580	POWER SWITCH COVER	1	
13(1)		VMZ0997	POWER CORD COVER	1	
21(2)		VQT3459	OPERATING INSTRUCTIONS	1	VW-AM10E <!> (NV-M10E/EG/EO/EW)
21(2)		VQT3460	OPERATING INSTRUCTION	1	VW-AM10B/A/EA <!> (NV-M10B/A/EA)
22(2)		VJA0180	BATTERY PACK CHARGING CONNECTOR	1	
23(2)		VJA0573	DC INPUT CABLE	1	

8. VW-AM10E/B/A/EA ELECTRICAL REPLACEMENT PARTS LIST

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VEP61058A	MAIN C.B.A.	1	(NLA) INCLUDING THE SECONDARY SUB MAIN C.B.A.(VEP60190A).
		VEP60190A	SECONDARY SUB MAIN C.B.A.	1	(NLA) INCLUDED IN MAIN C.B.A.(VEP61058A).
		VEP60182B	FRONT PANEL C.B.A.	1	(NLA)
	■	VEP61058A	MAIN C.B.A.		(NLA) INCLUDING THE SECONDARY SUB MAIN C.B.A.(VEP60190A).
			CAPACITORS		
C001		ECQU2A224MN	P.CAPACITOR 100V 0.22U	1	
C002		VCC0022	C.CAPACITOR 1000P	1	
C004		VCC0022	C.CAPACITOR 1000P	1	
C006		ECOS2GA820CA	.CAPACITOR 400V 82U	1	
C008		ECQV1H224JZ	P.CAPACITOR 50V 0.22U	1	
C009		ECEA1AU470	E.CAPACITOR 10V 47U	1	
C010		ECEA1VGE101	E.CAPACITOR 35V 100U	1	
C011		ECEA1VGE100	E.CAPACITOR 35V 10U	1	
C012		ECQU2A104MN	P.CAPACITOR 100V 0.1U	1	
C013		ECEA1HU010	E.CAPACITOR 50V 1U	1	
C101		ECEA1EFQ102	E.CAPACITOR 25V 1000U	1	
C102		ECEA1VGE101	E.CAPACITOR 35V 100U	1	
C103		ECEA1VKS100	E.CAPACITOR 35V 10U	1	
C104		ECEA1HKS010	E.CAPACITOR 50V 1U	1	
C106,07		ECEA1EKA470	E.CAPACITOR 25V 47U	2	
C108		ECEA1EKS330	E.CAPACITOR 25V 33U	1	
C110		ECEA1CM102	E.CAPACITOR 16V 1000U	1	
C111		ECEA1CKS220	E.CAPACITOR 16V 22U	1	
C112		ECEA1EGE471	E.CAPACITOR 25V 470U	1	
C113		ECKD2H101KB	C.CAPACITOR 500V 100U	1	
C114		ECEA1EKS4R7	E.CAPACITOR 25V 4.7U	1	
C115		ECEA1EKA470	E.CAPACITOR 25V 47U	1	
C116		ECQV1H473JZ	P.CAPACITOR 50V 0.047U	1	
C201		ECEA1ESN4R7	E.CAPACITOR 25V 4.7U	1	
C202		ECEA1CKS220	E.CAPACITOR 16V 22U	1	
C203		ECEA1EKS100	E.CAPACITOR 25V 10U	1	
C204		ECQV1H224JZ	P.CAPACITOR 50V 0.22U	1	
C205		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C206		ECEA1CKN330	E.CAPACITOR 16V 33U	1	
C209		ECEA1AKA101	E.CAPACITOR 10V 100U	1	
D001		D3SBA60	DIODE	1	
D003,04		RMPG06GPKG3	DIODE	2	
D005		MA4200	DIODE	1	
D006		MA4270	DIODE	1	
D007,08		MA4051M	DIODE	2	
D009		MA4100M	DIODE	1	
D101		FML12SPLF609	DIODE	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
D102		RMPG06GPKG3	DIODE	1	
D103,04		ERC81-004	DIODE	2	
D106		MA4091	DIODE	1	
D107-10		MA4300M	DIODE	4	
D111		MA4120M	DIODE	1	
D201-04		MA165	DIODE	4	
F001		XBA2C16TB0	FUSE	1	
IC001		VCR0297	IC	1	
IC002		VCR0296	IC	1	
IC101		AN78L12	IC	1	
IC201,02		UPC358C	IC	2	
IC203		UPC393C	IC	1	
L001		ELF18D456A	COIL	1	
L101		VLQEL06F680	COIL	1	
L102		VLQ0098	COIL	1	
L103		VLP0067	COIL	1	
Q101		2SK705	TRANSISTOR	1	(Y,C)
Q201,02		2SD636	TRANSISTOR	2	
QR101		UN1212	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R001		ERC12GJ334	S.RESISTOR 1/2W 330K	1	
R002-05		ERDS2TJ333	C.RESISTOR 1/4W 33K	4	
R006,07		ERDS2TJ823	C.RESISTOR 1/4W 82K	2	
R008		ERDS2TJ101	C.RESISTOR 1/4W 100	1	
R009,10		ERDS2TJ333	C.RESISTOR 1/4W 33K	2	
R012		ERDS2TJ271	C.RESISTOR 1/4W 270	1	
R013		ERDS2TJ823	C.RESISTOR 1/4W 82K	1	
R014		ERDS2TJ4R7	C.RESISTOR 1/4W 4.7	1	
R015		ERDS2TJ823	C.RESISTOR 1/4W 82K	1	
R101		ERF2AKR10	W.RESISTOR 2W 0.1	1	
R105		ERF2AKR10	W.RESISTOR 2W 0.1	1	
R106-09		ERDS2TJ272	C.RESISTOR 1/4W 2.7K	4	
R110,11		ERDS2TJ103	C.RESISTOR 1/4W 10K	2	
R112,13		ERDS2TJ821	C.RESISTOR 1/4W 820	2	
R201		EROS2CKF1001	M.RESISTOR 1/4W 1K	1	
R202		EROS2CKF1002	M.RESISTOR 1/4W 10K	1	
R203		EROS2CKF1802	M.RESISTOR 1/4W 18K	1	
R204		EROS2CKF2001	M.RESISTOR 1/4W 2K	1	
R205		EROS2CKF3000	M.RESISTOR 1/4W 300	1	
R206		ERDS2TJ681	C.RESISTOR 1/4W 680	1	
R207		ERDS2TJ224	C.RESISTOR 1/4W 220K	1	
R208,09		ERDS2TJ153	C.RESISTOR 1/4W 15K	2	
R210		ERDS2TJ104	C.RESISTOR 1/4W 100K	1	
R211		ERDS2TJ224	C.RESISTOR 1/4W 220K	1	
R212		ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R213		ERDS2TJ223	C.RESISTOR 1/4W 22K	1	
R214		ERDS2TJ104	C.RESISTOR 1/4W 100K	1	
R215		ERDS2TJ224	C.RESISTOR 1/4W 220K	1	
R216		ERDS2TJ124	C.RESISTOR 1/4W 120K	1	
R217		ERDS2TJ332	C.RESISTOR 1/4W 3.3K	1	
R218		ERDS2TJ562	C.RESISTOR 1/4W 5.6K	1	
R219		ERD25TJ106	C.RESISTOR 15M	1	
R220		ERDS2TJ153	C.RESISTOR 1/4W 15K	1	
T001		VLT0597	TRANSFORMER	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
TH101		ERTD2ZHL154S	THERMISTOR	1	
TH201		ERTD2ZHL503S	THERMISTOR	1	
VR201		EVN32CA00B24	V.RESISTOR 20K	1	
VR202		EVN32CA00B14	V.RESISTOR 10K	1	
ZNR1		ENB461D-05A	SURGE ABSORBER 460V	1	
			MISCELLANEOUS		
		TJC6320	FUSE HOLDER	2	
		VJS1629	CONNECTOR 8P	1	
		VSC2984	HEAT SINK	1	
		VMP2481	FIX ANGLE	1	
		VMZ0429	FUSE COVER	1	
		VMZ1361	CAPACITOR COVER	2	
		VMZ1512	INSULATION SHEET	1	
		VJR0161W	PACK PIN 7P	2	(SECONDARY SUB MAIN)
		VJR0283	PACK PIN 2P	1	(SECONDARY SUB MAIN)
	■	VEP60182B	FRONT PANEL C.B.A.		(NLA)
			CAPACITORS		
C301,02		ECQV1H473JZ	P.CAPACITOR 50V 0.047U	2	
C303		ECEA1EKS220	E.CAPACITOR 25V 22U	1	
D301		GL3ED8	DIODE	1	
D302		GL3HD18	DIODE	1	
D303-06		MA4300M	DIODE	4	
L301		VLQ0440	COIL	1	
			RESISTORS		
R301		ERDS2TJ472	C.RESISTOR 1/4W 4.7K	1	
R302		ERDS2TJ681	C.RESISTOR 1/4W 680	1	
			MISCELLANEOUS		
		KL04	LED HOLDER	2	
		VJJ0246	3PIN DC JACK	1	
		VJJ0248	DC JACK	1	
		VJP1629	8PIN CONNECTOR	1	